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MONEY



AND



BANKING



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# PREFACE

## TO THE SECOND EDITION

The substantial progress being made in analyzing the flow of money and the great increase in the supply of money are the two outstanding events in the field of money and banking since the publication of the first edition of this textbook in 1941. These two developments incorporate a variety of other developments such as the test of monetary management under inflationary conditions, the refinement of Keynesian economics into a more useful system for the analysis of money flows, and the new approach to economic problems through the use of national income analysis. In revising this book, we have tried to give adequate recognition to these changes while maintaining a balanced treatment of the older body of knowledge including the organization of the money and banking system of the United States, the significance of various types of bank assets, and the theories of reserves and bank credit expansion.

We have sought in this textbook to provide the student with a thorough knowledge of the processes of money creation and money destruction and their impact on the economy as a whole. The student thereby is prepared to study more advanced subjects in which a knowledge of these processes is assumed.

We wish to express again our gratitude to the many persons who aided us in writing the first edition of *Money and Banking*. This aid we have continued to rely upon in preparing the second edition. Gratitude is also due other writers and publishing firms who have



generously consented to allow us to use later materials in connection with this revision. Special acknowledgment is due Mr. John O. Chappell, Jr., Assistant Secretary, The Central Trust Company, Cincinnati, Ohio, who supplied illustrative materials used in Chapter XIII.

We regret that our former collaborator, Professor Philipp H. Lohman, was unable to participate with us in this revision due to circumstances which none of us could control.

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# PREFACE

## TO THE FIRST EDITION

When authors venture to prepare a new textbook, they usually hope to provide new factual materials not previously available for use in college classes, to give recognition to changing theories which compose the structure of a body of thought or perhaps to accomplish both. In presenting this book we have sought to achieve both of these requirements for present-day courses in Money and Banking. We are aware that opinion in the field is now less clearly crystallized than it has been for many years. Moreover, the factual, descriptive data have multiplied greatly. From such a wealth of material we have chosen that which seems to us best to illustrate the principles which underlie economic trends and which arouse the justifiable curiosities of the student.

Not so long ago the outlines of most textbooks were constructed around two propositions. They were (1) that the international gold standard, the best form of monetary organization yet conceived by man, must be preserved; and (2) credit extended by commercial banks should be restricted as far as possible to short-term loans for productive, commercial purposes. We do not question the validity of these principles when they operate in an environment appropriate to their use, but it has been impossible to employ such principles to explain the policies of control over money, credit and banking in operation today.

No rigid framework of thought has been formulated as a substi-

tute for the principles stated above. We have been disposed to emphasize the evolution of monetary and banking doctrines and institutions rather than formal principles. Dogmatic statements often provide a neat and internally consistent explanation of the kind of monetary and banking organization the makers of such statements would like us to have, but such statements too frequently ignore many facts that are irreconcilable with them. Such statements are intended to afford bases for discrimination between correct and incorrect practices or policies. The evolutionary point of view does not, however, preclude all bases for judgment since it may reveal that certain actions ignore the lessons of past experience and can therefore be condemned, while others which take adequate account of experience may be approved.

The specific characteristics of this book are the result of the general point of view adopted. A few of these characteristics may be mentioned, not with any claim of originality for uniqueness, but rather to acquaint the reader with the reasons for certain features.

(1) A chapter on Modern Media of Exchange is included early because it is essential to a description of our monetary and banking organization. (2) In Part II, an attempt is made to show the general historical and institutional setting in which the individual bank operates. (3) In Part III, The Banking Process, the point of view of the individual bank is followed through the chapters on bank capital, deposits, loans, and investments. The chapters on the reserve problem, bank credit expansion, and clearings reveal the relationship of the individual bank to the whole banking system. (4) In Part IV, a description of some noncommercial banking operations is presented. The growing importance of noncommercial banking both inside and outside the sphere of the so-called commercial bank seems to justify placing the discussion of noncommercial banking adjacent to the description of the commercial banking process. (5) The chapters on the value of money have been placed late in the book because monetary theory has more meaning to a student after he has acquired a knowledge of banking theory and practice. (6) In Part VI, The Control of the Money Market, a description of the structure of the money market and analyses of the guides and the instruments of credit control are presented before a discussion of control by central banking authorities and the Treasury is at-

tempted. (7) In the chapters dealing with foreign exchange scant attention is paid to present-day arbitrary methods of fixing exchange rates because these methods are transitory in nature. Similarly, no attempt is made to single out for detailed discussion the many proposals concerning the gold problem. A list of such proposals, together with a special bibliography, is presented for the convenience of any instructor who might wish to engage in more or less extensive discussion on this subject.

The materials in the last chapter, Recent Monetary Theory and Theories of Control, might have been included in earlier parts of the book. Our reason for placing the discussions of these topics at the end is that the proposals which are mentioned are highly controversial and will probably be subjected to important emendations before becoming a part of the generally recognized structure of monetary and banking thought.

Our problem of recognizing all those who have aided us is great. Gratitude is due those who have generously permitted us to quote from their materials. We earnestly hope that our use of them out of their context has not resulted in any unfairness to their general argument. Special acknowledgment is due to The Central Trust Company, Cincinnati, Ohio, for the illustrative materials used in Chapter XV, to the Bank of America for the illustrations used in Chapter III, and to the American Bankers Association for materials used in the preparation of Chapter XVI.

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DELMAS R. CAWTHORNE  
PHILIPP H. LOHMAN

OXFORD, OHIO  
April, 1941



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## *PART ONE*

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# THE ROLE OF MONEY IN THE ECONOMY



# CHAPTER

## I

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### THE NATURE AND FUNCTIONS OF MONEY

**Introduction.** The importance of the fields of money and banking as sectors of economics can be readily appreciated if one stops to reflect how often in a recital of his daily activities the word "dollar" is used. We use this term in stating values, pricing the things we buy, comparing the bargains offered by one seller over those of another, computing our taxes, apportioning our income among the various items of food, clothing, and shelter, as well as trying to determine the amount of money we should lay away for the days when we will no longer receive income. Frequently the money system is condemned because people with goods are unable to sell them for money, or a sufficient quantity of money to enable them to satisfy their customary needs for other goods and services; at other times we find that the possession of a comparatively abundant supply nevertheless leaves many persons the problem of fulfilling these customary needs with the amount of it in their possession.

These problems face not only the person whose chief concern is to use money to satisfy his daily needs in the market place; the student of money is likewise constantly confronted by the same problems in his attempt to develop new analyses of this varied and complex institution. In fact, the student realizes that some of the same problems which confront him today have been subjects of extensive debate for more than a century. Since this is understood, one may wonder why he does not despair of his task and find more fruitful

avenues for his efforts. The answer lies in the fact that we cannot fashion a perfect monetary system as long as the economic system which is served by the monetary and banking system continues to change and consciously or unconsciously to assign new and constantly more difficult tasks to the monetary institutions.

A careful examination of money and banking theories and practices leads to the evaluation of the ends sought through money and banking organization and to study of the changes in these institutions required by our changing ways of making and spending money. Much of the history of money and banking can be written in terms of society's effort to achieve stability in some frame of reference. Primitive societies found it necessary to make their money from some valuable material in order to make it acceptable. By this means the members of the society were provided with a universally acceptable money which could be stored against future wants and which thus supplied a measure of stability in the sense of personal financial security. Later, the organization of national currencies on metallic standards, such as the gold standard, provided the international trading interests of countries with currencies that enabled them to compare international values in terms of a fairly stable standard commodity, and at the same time permitted individual security from overissues of paper money by the state. Modern societies have found, however, that a stability of money which related only to its redemption in gold was not sufficient to satisfy the requirements of an economic system based upon a high degree of economic interdependence.

The continuing attack on the problem of instability in recent times, particularly as that attack relates to money and banking, has taken a variety of forms. In most cases, however, some type of control over the supply of money has been the underlying objective toward which monetary changes have been directed. This great reliance upon the establishment of a quantity of money that is neither inadequate nor excessive as the desirable goal of much legislation makes it possible and indeed very helpful to use it as the central theme for a discussion of the subjects treated in this book. In selecting the supply or quantity of money as the organizing theme of the following material, it is not intended to affirm the soundness of many of the measures taken with respect to this supply nor to suggest that

the theories of money from which they were derived are demonstrably superior to other accounts. In fact, many of the measures as well as theories of money and banking examined strongly deny that the supply of money is its most important characteristic. Regardless of one's belief in or objections to the use of the supply of money as the central factor in a scheme of control, it is the characteristic theme of so much of modern economic thought that it provides a most useful guide to be used in contrasting and comparing various proposed monetary systems, as well as in developing underlying principles of money and banking. Therefore, in the chapters that follow, the student should constantly ask himself the relevance of each subject to the broader subject of the supply of money. In doing this, he will steadily improve his comprehension of the underlying relationship of all subjects discussed.

### DEFINITION OF TERMS

Before a further examination of some of the characteristics of money, it is necessary to define some of the most common terms in the field. The term "money" will be used to indicate *all things that are generally used in making payments for goods and services and that are used in discharging debts*. It is important to stress the fact that a thing must be generally used for these purposes to qualify. There is still a small amount of exchange carried on by direct trading of commodities such as occurs when the farmer's wife takes eggs to the grocery store and obtains processed goods in return. Even though this kind of trade occurs regularly, it is not generally true for any significant part of our total trade and would therefore not permit eggs to be called money.

"Currency," another term that will be frequently encountered, is used to designate the notes and coins that are passed from hand to hand in everyday trade. Currency is often thought by the public to make up the total supply of money. This is not an accurate view, however, for the greatest part of our total payments, probably 90 per cent or more, is made by transferring bank deposits through the use of checks. Therefore our total supply of money at any given time is the sum of our currency outstanding and our bank deposits.

Much of our modern business is carried on through the use of



credit. In its general form, credit means the exchange of a valuable thing in the present in return for a promise to pay in the future. It is obvious from this that banking is the business of dealing in credit, for banking consists of the process of taking promissory notes and securities and giving deposits, or claims, on the bank in return. Claims on banks are regularly transferred from one depositor to another in making payments, and for this reason are classed as money.

Other types of credit do not qualify to be so classified, for they are not generally used in making payments but they serve instead only to defer payments. For example, when one charges a suit of clothes to his account at a store, he only defers payment for a month or so and, at the end of that time, he will make payment by delivering currency or a bank check for the amount of the purchase.

Other terms that are used in the analysis of money and banking institutions will be considered as the need arises in future chapters.

## MONEY AS AN EVOLUTIONARY INSTITUTION

Money shares with other social phenomena the attribute of being evolutionary or of changing from one form to another as the ways of making and spending money change. The fact that money is evolutionary can be established by a visit to a museum where displays of coins of various former and present governments are available. Such displays only establish the fact that evolution has taken place; they do not give insight into the conditions which have led certain people in certain conditions to choose one form of money and other people at other times and under other conditions to employ another. We can readily understand why these choices have been different if we examine the reasons for the use of money in any society. These reasons can be found in the fact that a society with a high degree of specialization is more productive than one in which each individual or small group seeks to fulfill all wants by their own production. Whenever production is organized on the basis of specialization, each producing unit must exchange the product which it makes for those made by other units. When these exchanges are made without money, the system is called barter. Since the individual wanting one product may not have the things desired by its maker, he must find

an individual who does have them and then arrange for an exchange of goods. Manifestly, such a system of trade requires the producer to spend much time in making exchanges of goods. The use of money permits the producer to sell the things he has for money and then seek out the seller offering the products he desires. The existence of specialization, requiring a simplified system of exchange, is thus seen to induce the transition from barter to money exchange.

The evolution of money from its earliest and simplest forms to modern usages has been traced by numerous writers. Perhaps the simplest way in which a grasp of the evolutionary characteristics of money may be obtained is by examination of the qualities which, about three-quarters of a century ago, were considered desirable in a money, and the manner in which the changes since that time have affected their desirability today.

The qualities which were regarded as most desirable in a money a few decades ago were: (1) general acceptability; (2) divisibility; (3) relative stability of value; (4) scarcity; (5) intrinsic value; (6) malleability.

1. General acceptability in the money was regarded as highly desirable a few decades ago and is still so considered. This is one of the characteristics of a money system which is not evolutionary, for, if money is to serve in the day-to-day transactions of trade, it must pass easily from hand to hand without requiring careful examination to determine its value. If for any reason the money loses this quality, the normal system of exchange breaks down and inflation of the severest kind ordinarily results. In order to prevent too wide variation in the degree of public acceptance, governments undertake, in several ways, to assure that the public will have no cause to refuse to accept it. One of these has been by the manufacture of coins from precious metals, which leads to a less critical acceptance of them by the public than would be possible if a variety of baser metals were used. A second method is to confer the status of legal tender upon certain forms of money. When a money is made legal tender, it can be offered in payment of a debt, and failure to accept it when offered relieves the debtor of further obligation to pay interest on the debt. It does not, however, relieve the debtor of the obligation to pay the debt and interest accrued to the time of the offer. Today little of the money in the world is made from the precious

metals; in the United States as well as in other countries, all circulating money has legal tender power. The continued acceptance of the money is due in large measure to the fact that the economic system is highly productive and therefore goods can be obtained readily in exchange for it.

2. Divisibility has been considered a desirable quality of a money because the sizes of transactions vary. When cattle were used as money, it was difficult to make an exchange for other goods unless the amount of the transaction was an even multiple of the money unit. Division of an animal for an uneven transaction caused it to lose its value as money. Furthermore, there were such wide variations in the size and quality of the various cattle that, in an exchange, each of the animals had to be appraised separately. A comparable situation would prevail today if a storekeeper had to evaluate each unit of money offered him. Certainly if such methods were used today, trade in its present form could scarcely exist. Somewhat the same impediments are present when any other commodity money except the metals is used. Since metals are original chemical elements, they are homogeneous and can be divided in any way that is desirable without losing their identity.

The quality of divisibility has become very much less important than formerly as modern banking has developed. Payments are now generally made by the transfer of a bank deposit, and any denomination may be secured by simply drawing the check for the particular amount required by the transaction. In the United States today, part of the money is secured by government bonds of large denominations. It is clear that this money could not be redeemed in small amounts in the security used to guarantee its safety, and yet the country does not suffer from a lack of small coins. These are made for the account of the government and are issued in response to the demand of the public for such coins as this demand is expressed by the withdrawal of coins from banks. We may conclude that the growth of deposit banking has made divisibility in the money a secondary matter by making it possible to draw a bank check for any amount.

3. A money which is approximately stable in value is highly desirable because money is interposed between exchanges of goods. Changes in the value of money are disruptive to trade in the same

way that changes in the size of the ton or yard would be. The degree of stability required of a monetary system is, in part, the result of prevailing economic conditions, and in part the result of public desire. For example, the value of money may be equally unstable in two periods, yet in one its variations may have a greater effect upon the distribution of income than in the other. In one period, the volume of contractual obligations may be great, and price and wage levels highly inflexible; in the other, these conditions may be more responsive to changes in the general price level.

The increasing proportion of the national income exchanged for money also affects the need for stability in the value of money. In the United States, the individual produces less and less of the materials needed for his own consumption. In other words, the individual is engaged to an ever increasing extent in producing goods for and rendering services to others, relying on the market to supply him with the things he wants. In earlier periods of American economic development, fluctuations in the value of money were not quite so important as they are today, for a greater proportion of goods was produced for the consumption of the family of the producer. It made little difference whether potatoes sold in the market for 15 cents or \$1.00 per bushel, if the producer, regardless of price, intended to put them into his cellar for the consumption of his family.

The demand for stability in the value of money is affected also by the desire for greater stability and security in all economic relationships. The rapid increase in national regulations having greater stability as their purpose indicates the extent of the demand for stability in contemporary affairs. Social guarantees against the consequences of unemployment, penniless old age, bank failures, and price competition, all reflect the tenor of modern sentiment.

It can be seen from these facts that stability in the value of money has become even more desirable than it was when students first added it to the list of qualities that a good money should possess. The growing reliance on the market, together with the increasingly severe consequences of instability, have made this quality of money gain in importance when other qualities were becoming less important.

4. The money material should be sufficiently scarce to give a small amount a comparatively high value. Then it would be possible to

carry a large enough sum to settle all ordinary requirements. However, too great a scarcity would so limit the volume of money that production and trade would be impaired. While there are metals that have a higher value per ounce than gold and silver, their use as money is undesirable because they are too scarce. Governments have some control over the amount of money which may be made from a given quantity of metal. Many times in the past, money has been debased by changing the relation of the money unit to the money material. The United States dollar represented 23.22 grains of pure gold in 1932; the Gold Reserve Act of 1934 gave the President power to devalue it by as much as 50 per cent. Acting under this power, the President changed the gold content of the dollar to 13.71 grains of pure gold. This made it possible for a greater number of dollars to be made from or issued against a given quantity of metal.

The greater use of bank checks as a method of making payments has made the relative scarcity of money material very much less important than it was formerly. Today there is little demand for gold as a hand-to-hand money; its chief use is in the settlement of international balances. Consequently, debasement has less influence upon the supply of money in the business of the present than it had a hundred years ago.

5. In a simple economy the acceptance of money is dependent upon the money material having an economic value which is separate from its value as a money element. One might question whether it is still necessary to use a valuable substance today when most transactions are settled by the use of bank checks; but, as has been said, a considerable volume of business is still conducted between countries where credit cannot always be used. Although all transactions between countries are not settled by the use of gold, nevertheless gold is highly acceptable as a form of payment, even though it has been partially demonetized. Exchange value in the money material is, therefore, still important although less so than formerly.

6. Malleability was a most important characteristic of the money material as long as the chief form of payment was in coins. In fact, this quality gained in importance when the practice of using coins became general. Coins came into prominence when the kings began to imprint their crowns upon the metal to increase its acceptability and to raise revenues for the state. Today the significance of mallea-

bility is distinctly secondary, for almost any material can be used for coinage purposes as long as the coins are redeemable in the basic money material.

## THE ECONOMIC FUNCTIONS OF MONEY

The discussion to this point has been chiefly concerned with the qualities of a satisfactory money material. Whether any given substance is thought to fulfill these qualifications is dependent upon the type of economic organization prevailing at a given time. The more complex the economic organization in which money is expected to function, the more difficult will be the tasks assigned to the money. In general, the major functions of money in a modern economy are to serve (1) as a unit of account or standard of values, (2) as a medium of exchange, (3) as a store of values, and (4) as a standard of deferred payments. The fourth function is closely related to the first.

Money as the unit of account or standard of value. The most important service of money to any society is that of permitting a simplification of the system of counting. In a barter economy where there is no common unit in which values can be expressed, it is virtually impossible to conceive of a closely coordinated system of values. Keynes distinguishes media of exchange and the unit of account as follows: <sup>1</sup>

Perhaps we may elucidate the distinction between *money* and *money of account* by saying that the money-of-account is the *description* or *title* and the money is the *thing* which answers the description. Now if the same thing always answered to the same description, the distinction would have no practical interest. But if the thing can change, whilst the description remains the same, then the distinction can be highly significant. The distinction is like that between the King of England (whoever he may be) and King George. A contract to pay a weight of gold equal to the weight of the King of England is not the same thing as a contract to pay a weight of gold equal to the weight of the individual who is now King George.

To understand the importance of the unit of account better, let us suppose that in a certain community the commodities traded are furs, cattle, slaves, wheat, and iron. In order that the illustration may

<sup>1</sup> Keynes, J. M., *A Treatise on Money*, New York: Harcourt, Brace and Co., Ltd., 1930, Vol. I, pp. 3-4.

be as simple as possible, suppose further that all furs are exactly alike, as are all other categories of items traded. Then one slave may command in exchange 10 cattle, 30 furs, 200 bushels of wheat, and 2 tons of iron. The value quotations for slaves are made for each of the other commodities. Similarly, the values of all commodities may be expressed in terms of cattle, in which case there would be additional value ratios between cattle and furs, cattle and wheat, and cattle and iron. If an actual case were taken today, we would find that the quotation of prices as they exist would be so complicated as to make the present exchange system impossible, since the number and variety of commodities is so great. When using money, there are as many prices as there are items and kinds of items, but when a barter economy is used there is a far greater number, since the value of each product must be expressed in terms of the value of every other product.

Money-of-account is not subject to evolutionary change since it is the title of the thing used as money. When the monetary system of the United States was established, the dollar was chosen as the unit of account. The term "dollar" has continued to be retained, but the things which have represented a dollar have changed frequently, sometimes drastically. In general, paper money of various kinds, coins and bank credits have served as media of exchange. The static character of the unit of account is quite important. Suppose that all values had to be restated in a new form each time the medium of exchange was altered. A corporation would have to estimate the value of the new standard in terms of the old standard and then value its assets according to the new standard. Such a procedure would be costly and would accomplish no greater efficiency of operations. On the other hand, since the system of values is constantly being restated in terms of new media, even though we do not give recognition to these changes by changing the unit of account, it becomes virtually impossible to compare values over any long period of time by means of the money medium. In summary, the unit of account provides continuity in our statement of values in monetary terms; yet it may give to such a statement an appearance of accuracy which actually does not exist.

**Money as a medium of exchange.** The second and the most obvious function of money is its use as a medium of exchange. In a money

economy, money is interposed between the exchange of goods for goods, while in a barter economy, the goods are exchanged without an intervening step. The usefulness of the first method of trade is due to the absence of coincidence in exchange. In a barter economy an individual who wishes to buy shoes may have textiles to offer for them, but the seller of shoes may be willing to accept only food products; consequently, the buyer of shoes must first find someone who wants textiles and who will give food products in payment before he can secure the shoes. The awkwardness and expense of such an exchange process forbid trade in any except the most salable and necessary items, and diminish the possibility of large-scale production for sale. By reducing the complications of this system, money affords the opportunity for a more efficient productive system. Buyers can search through a wide variety of goods to find satisfactory products and can distribute their purchases over a period of time.

The fact that the medium of exchange is subject to change has already been pointed out. The changes which have occurred in the past have been both accidental and calculated. The limitation of one material from which money is made may, at times, induce a shift to another, particularly when more money is thought to be needed for carrying on trade. Changes have also been dictated by political expediency which, while they may have been unwise from an economic point of view at the time, were necessary to the maintenance of a political situation. For instance, a country may completely distort its money system during a war in order to maintain itself as a political unit. The money might have been raised by taxation, but perhaps with greater cost of morale, so necessary during periods of conflict. In this manner, a medium of exchange is subordinated to political purposes with little concern for the economic effects of the action.

**Money as a store of value.** Money is frequently held by individuals as a store of value. In a barter economy, every seller of goods or services is, at the same time, a buyer, since he must accept payment in some other commodity. But a money economy permits the separation of the two parts of the transfer process, for money may be held for any length of time without being subjected to the same processes of deterioration as might a commodity. This quality of money has



both its advantages and its disadvantages. It enables the individual to apportion his consumption over a period of time with greater ease and probably with greater consumption satisfaction, without the risk of a large loss. The use of money as a store of value has the social disadvantage of affording an opportunity for hoarding which dries up purchasing power and produces an environment in which business depressions flourish.

Money as a standard of deferred payments. It has already been shown that the function of money as a unit of account is closely related to the operation of a money economy. Because of the existence of a unit of account, it is possible for money to serve as a standard of deferred payment, in which event a basis exists whereby goods received in the present may be paid for in the future with the standard prevailing in the present.

The usefulness of such a standard may be more clearly perceived through the use of several examples. Suppose a housewife buys goods during a month and pays her account on the tenth of the following month. She gives in money value an amount equal to the value of the goods acquired during the preceding month. Changes in the value of money are not likely to be so rapid as to disturb payments when the time element is so short. But if the interval between the receipt of goods and final payment for them is a year or more, variations in price levels might disturb the relationship between debtors and creditors, so that more or less purchasing power might be required than if the goods had been paid for when they were bought.

The service of a standard of deferred payments is clearest in those transactions which involve periods of twenty, fifty, or even a hundred years. Suppose the Baltimore and Ohio Railroad had borrowed commodities for the construction of a roadbed and for equipment in 1870, promising to repay them in 1940. In the intervening years, changes in the types of commodities would clearly make it impossible for the railroad company to return materials identical to those borrowed. The return of identical goods would likewise be most undesirable to the estate of the lender. Thus the standard of deferred payments makes it possible to borrow in order to finance projects needing long-term capital, which otherwise it would be impossible to finance.

This function of money is significant only in a highly developed credit economy, in which a large proportion of the goods and services is exchanged, with the understanding that payments will be made in the future. As the interval increases between the creation of the loan and its final repayment, and as the number of loans increases, this function grows in importance to the economic process.

## THE BUSINESS FUNCTIONS OF MONEY

Consideration of the functions of money to this point has been for the purpose of generalizing without respect to particular economic groups. These economic functions are the most far-reaching of the services performed by the money unit. In order that they may be conceived in everyday terms, we may examine their effects upon the operations of a business. In this connection, business is taken to be the process of producing goods and delivering them to the ultimate consumer; later the benefits to the consumer will be summarized.

**The problem of valuation.** The businessman is constantly concerned with values. One of the most obvious points at which this concern arises is in the determination of the value of the inventory. Suppose a manufacturer, with a large variety of goods in his inventory of raw material, semifinished, and finished goods, wishes to determine the amount of his stock. He might accomplish this by counting the number of each separate type of item and comparing the number of each held now with the number held last year. This would tell him how many of each item he owned compared to the previous year. But the method is faulty in that it does not afford a way by which he can summarize his results and learn how much this year's total is worth compared with that of last year. There may be 10 per cent more of some items, 2 per cent less of others, and so on down the entire list. The use of money units makes it possible for the manufacturer to summarize in terms of dollars and to report to his stockholders that this year's inventory is worth a given number of dollars more or less than last year. Only by having a unit of account can this estimate be satisfactorily made.

Another type of valuation problem occurs when a businessman acquires such an asset as land or a plant. There may be several alter-

native purchases offered to him. One piece of land may have certain distinct advantages over others that are available, but the price which he must pay is also higher. His problem is to decide whether the extra advantages which the superior land yields are worth the extra price he must pay. In a barter economy his decision would be much more difficult, since the things that he would give for each of the pieces of land might all be different, and therefore he would have to value the commodities he would give as well as the land he would receive. One seller of land might be willing to accept 3,000 bushels of wheat while another would demand 60 tons of steel.

A third type of valuation problem, the solution of which is facilitated by the use of money, is the computation of profits. Since profits result from an excess of selling prices over costs, it is necessary that costs and selling prices be carefully estimated before goods are produced. While even in a barter economy some crude calculations might be made, the enormity of the task suggests that the selling price would have to contain a large allowance for error in calculations. In a money economy, the profit margin may be computed badly or inaccurately, but the task is greatly simplified by the existence of a common unit in which values are expressed.

The problem of liquidity. Among the other contingencies which must be faced by a business, there is the possibility that creditors will refuse to extend loans, or that bargains may be secured if the resources are available to pay for them. The amount of cash required to be held by a concern is dependent upon the kinds of claims that may be made against it and the type of business carried on. A railroad does not have to maintain large cash balances since its debts become due only after a long period of time, but a bank must hold substantial balances since its depositors may demand redemption at any time. Since money is generally acceptable, it affords the best medium through which a liquid position may be maintained against the occurrence of contingencies that could prove embarrassing to the business or even force its liquidation at the most disadvantageous time.

## THE CONSUMPTION FUNCTIONS OF MONEY

It should be apparent that, since money permits the processes of production and distribution to function more effectively, it indirectly

benefits the consumer. If the production and distribution of goods were complicated by a cumbersome system of counting, the cost of goods would be raised, for more time would then be spent in arriving at a proper course of action in producing and distributing goods. A further effect of this method would be to reduce the variety and volume of goods offered for sale and thereby to lower the standard of consumption.

A second advantage of a money economy to the consumer is that a simplification of counting also expedites the task of comparing the costs and values of the various goods offered for sale. Careful and successful buying, whether by the consumer or by the manufacturer, must be based upon a comparison of the merits and demerits of the myriad of actions that could be taken. By making this task simpler, money affords the consumer a better chance to make purchases that will represent his best judgment of the alternatives offered.

Finally, the time options permitted by the use of money are of great advantage to the consumer, for, without some liquid object, he would be forced to accept his income in the form of commodities that might, because of deterioration, lose their value before he could consume them. In receiving payment in money, he is able to postpone his purchases until the most advantageous time from his point of view, thereby increasing the satisfaction which he receives. Time options also permit the consumer to protect himself against certain kinds of emergencies. With his money, he can hold a reserve of purchasing power so that, if he finds his future needs to be different from his present needs, he can shift his buying from one set of objects to another without inconvenience or difficulty. Today he may desire clothing, housing, and food in liberal quantities; tomorrow he may need medicine and the care of a physician. In the absence of a money medium, he would be forced to accept articles less likely to secure these things for him.

### STUDY QUESTIONS

1. Under what general economic conditions will the public desire to increase its use of money as a store of values?
2. "If a person bought a new Ford by trading in an old Cadillac, money would have served no function in the transaction." Comment.
3. The New York Stock Exchange estimates that 98 per cent of all pay-

ments among brokers buying and selling securities for their customers are made by exchanges of securities and only 2 per cent by checks. Are such transactions dependent on money only to the extent of 2 per cent?

4. Compare the relative merits of a money system in which checks are used in 90 per cent of the transactions with a system in which 90 per cent of all payments are made with gold.
5. Must money have a value as a commodity apart from its value as money in order to be acceptable? If so, why? If not, why not?
6. Argue that the use of money is a "technological improvement" comparable to the substitution of tractors for horses.

# CHAPTER

## 2

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### MONETARY SYSTEMS AND STANDARDS

**Introduction.** Monetary systems are organized to accomplish the general functions discussed in the preceding chapter. Since money has been shown to be so vital to the orderly operation of a modern economy, it would be natural to assume that monetary standards had been established only after thorough consideration of all alternative plans. Monetary systems have, in fact, been so determined in many cases in modern times. Today the subject is receiving the most intense thought as the world is attempting to establish institutions for the expansion of world trade. But the considerations which lead to the choice of one system rather than any other are not always economic in nature; political expediency, group interests, and regional competition have frequently been important also. It is desirable therefore that we realize that the superiority of one form may not necessarily lead to its establishment unless other circumstances are favorable to its adoption.

Before examining several of the historic forms of money organization as well as a recent proposal which has never been tried, it is desirable to consider the strictly economic qualities on which these and other standards are usually judged. These qualities are particularly appropriate to current discussions, for it will be remembered that the standard most appropriate to given conditions depends upon the stage of development of the economic organization.

## BASES FOR JUDGING A MONETARY STANDARD

The modern debate over the most appropriate method of organizing money has centered around a number of issues. Comprehension of the problem of the standard may be promoted by a preliminary examination of these issues.

1. The first of the considerations for judging a standard are the circumstances which cause the supply of money to vary. For example, a country on a commodity standard, such as a potato standard, would find that its supply of money varied with the costs of producing potatoes. If the prices of all commodities rose, costs of production would rise also and, since potatoes would be bought by the government at a fixed price, they would be offered not to the government but to the market. The supply of money would therefore be limited by the rise and fall of costs of production and by the comparative value of the commodity at the market and the treasury.

2. Since money serves in domestic trade as a medium of exchange and a standard, it is also important that it have attributes which enable it to serve in the establishment of values of commodities traded between countries. If two or more countries use the same kind of monetary standard, it is believed that values may be more readily compared between the two than when they employ different standards. If the value of one country's money is stable in terms of the money of another country, it is possible for international traders to undertake trade with less risk of loss from changes in the value of money. This subject will be examined more thoroughly later; here it is important only that the meaning of the term *external value* be understood.

3. A third criterion for judging a money standard is its susceptibility to control in the interests of a greater degree of economic stability or some other purpose which the government of the country desires and is able to pursue. In the United States during the depression years of the 1930's, the ambitious proposals for domestic economic control were thought to be more likely to succeed under a managed money standard than under the gold standard which preceded. In Germany after the abandonment of the gold standard in 1931, the government pursued a policy of rigid monetary control as a part of its scheme for the development of a war economy. Mani-

festly, there is a great amount of debate about such a criterion; those who favor it are anxious to see the state play a larger part in the regulation of economic affairs; those who oppose it are skeptical of the implications of such controls. Those who oppose monetary standards which permit considerable latitude to the government in the management of the economy prefer a standard which functions more or less automatically with little or no direct intervention.

4. Money standards are sometimes judged in terms of their contribution to stability in the production and distribution of income. As society has become more complex and as a greater part of the entire world has come to depend upon stable market conditions for the sale of its products and the purchase of its needs, a money of ever-changing value has become more and more intolerable. Differences of opinion exist concerning the degree to which a given monetary organization may aid in the solution of this problem, yet most students would concede that the adaptability of the money standard to changing requirements should be considered in choosing a standard.

## THE FUNCTIONS OF THE STANDARD MONEY

In a money system, some one material is designated, or implied in the law, as the standard in which the money will be redeemed or with which parity will be maintained. The paper standard, as will be seen later, simply states that the money will not be redeemed henceforth and thus requires that paper circulate without redemption. In the case of the standards in which a commodity or combination of commodities is used, the standard money acts as a base for the values of all forms of circulating currency. Parity of all monies is accomplished by one of two methods or both: (1) the money material may be coined, thereby making the standard money synonymous with the circulating medium itself; or (2) all the various kinds of money may be made redeemable in the standard money at the option of the holder. As long as either or both of these conditions exist, the value of any money cannot deviate far from the value of the standard money material.

Where conversion is made possible, the standard metal need not



circulate, certainly not in large amounts. In Great Britain, after the restoration of the gold standard in 1925, few gold coins circulated. Silver and paper money were issued instead and were made redeemable at the Treasury in gold. It is apparent, then, that one function of the standard metal is to provide for the complete interchangeability of all kinds of circulating money. Perhaps this function could be performed in other and superior ways, but this has been the traditional method of securing homogeneity of value for all types of money. Another method of achieving the same result would be to make all money irredeemable and give all types of money equal legal tender power.

The second function of a standard money is its use in the settlement of international balances. A large amount of trade between countries is paid for through the foreign exchange markets without actual shipment of the money material; the amount by which total exports, including financial transactions, exceed total imports requires that there be available some instrument through which the remainder can be settled. When two or more countries are using the same material as standard money, payment is accomplished easily by the shipment of the standard money. The importer of goods has his money redeemed in the standard and ships an amount of the metal which will buy enough of the money of the foreign country to settle the account. If the same standard money is not used by the two countries involved, then the money material of the debtor country will be used in settlement at the rate or price of the material prevailing in the metal markets of the world. Suppose the United States is on a copper standard and that copper is quoted in Paris at 10 francs per pound. An American desiring to buy 10,000 francs' worth of goods would ship 1,000 pounds of copper to be sold in the market for francs. This copper would be secured from the United States Treasury at the prevailing rate of redemption for the United States money unit.

### TYPES OF MONEY STANDARDS

The money standards which have existed in the past or which have been proposed as improvements over prevailing systems are numerous. It is not important that an exhaustive list be compiled here;

only those that have actually served or have been given serious attention recently will be discussed. They are:

- I. Monometallic or single-metal standard
  1. Gold standard
    - a. Gold coin
    - b. Gold bullion
    - c. Gold exchange
  2. Silver standard
    - a. Silver coin
    - b. Silver bullion
    - c. Silver exchange
- II. Bimetallic standard
- III. Commodity standards
- IV. Fiduciary standards
  1. Fiat money without control
  2. Fiat money where control is attempted (managed money)

## THE GOLD STANDARD

In discussing the monometallic standard, the gold standard will be taken as typical since it has been the most widely used in modern times. The gold standard employs gold as the sole metallic base of a country's monetary system. While it is true that this standard has varied somewhat among the countries employing the gold standard, nevertheless it has the following general characteristics.

### Technical requisites of the gold standard.

1. *A legislative enactment must define the standard money unit as a definite weight of gold of a specified fineness.* For example, the American Gold Standard Act of 1900 specified that "the dollar consisting of 25.8 grains of gold  $\frac{9}{10}$  fine . . . shall be the standard unit of value, and all forms of money issued or coined by the United States shall be maintained at a parity of value with this standard, and it shall be the duty of the Secretary of the Treasury to maintain such parity." Pure gold, due to its pliability, cannot withstand the rigors of circulation, and for this reason copper alloy, in a fixed ratio, is added to give coins greater durability. Among almost

all commercial nations such a ratio of pure metal to the monetary metal is fixed by custom or law of long standing.

2. *The law must endow the gold unit with privileges of full legal tender.* This is usually a matter of form since gold has had wide acceptance under most conditions. The procedure, however, is necessary in order to fix the legality of an offer in the settlement of disputes over debts.

3. *Free or unlimited coinage must be maintained.* The government must stand ready to accept gold at its mints in unlimited quantities, in exchange for which gold coin or other forms of money are given. Likewise, it must permit free retirement of all money, either by melting or by redemption. A free coinage does not mean that the cost of minting is borne by the government. In the sense used here, *free* simply means that anyone may bring bullion to the mint for conversion into coin in contradistinction to a *limited coinage* when bullion is converted into coin only for the account of the government. When the cost of coinage is borne by the state, it is said to be *gratuitous*. A charge which is just sufficient to cover the expenses of coinage is called *brassage*. As long as the charge does not exceed the actual costs of minting, there is no interference with the prerequisite that under a gold standard the money should be at par with gold. If, however, the government makes a profit from its minting operations by a charge greater than the coinage costs, the excess charge is called *net seigniorage*.

4. *Restrictions must not be placed on the free movement of gold* from the arts and industry into money and from money into the arts and industry; nor must there be any interference whatsoever in the export and import of gold from foreign countries. A government must permit free external and internal flow of gold in order to maintain the gold standard and thus keep its money at par with gold. This means that an individual may offer gold for sale either in the open market or at the mint, the value of gold thus being equalized between those two markets. As long as the government stands ready to buy fine gold at \$35.00 per ounce, no one would offer gold in the open market for a price less than this; on the other hand, should the price in the open market rise above \$35.00, paper money would be presented at the Treasury in exchange for gold and the metal sold in the market. The internal value would thus be stabilized, so far

as these markets are concerned, by the free internal flow between the market and the mint.

The free external movement of gold reduces the limits within which the value of a particular currency unit may fluctuate in terms of other monetary units. Assuming that the British money unit exchanges for \$5.00, that is, the gold content of the unit is five times that of the dollar, and that the cost of shipping gold from New York is approximately 2 cents, it would be impossible for the British money unit to sell for more than \$5.02 or less than \$4.98. In the one instance, an individual would ship gold to England rather than pay the extra amount for English money; in the other, the Englishman making payments in the United States would ship gold here rather than accept a lower price for his money.

5. The last requirement of a gold standard is that *all types of money must be convertible into gold*. Gold reserves must be maintained in order to effect this conversion, although they need not be equal in size to the obligations that can be offered. As long as the reserves are large enough to satisfy all actual demands, they are adequate for maintaining convertibility.

Economic conditions appropriate to a gold standard. It has been suggested that certain economic conditions are essential to the successful maintenance of a gold standard. The following three are the most important of these conditions:

1. *A flexible price structure must be maintained*. Only when an outflow and an inflow of gold result in a decline and rise respectively in the price level of any country can a reasonable distribution of gold among countries on the gold standard take place. If prices do not react in this manner, a country losing gold will be unable to regain it in the normal process of international trade. As a consequence, it will be forced to abandon the gold standard when its reserves are exhausted.

2. *No undue interference with the flow of international trade can be permitted*. Only when trade barriers are not excessive can the country losing gold cover its losses by exports of goods and services to other countries. The price adjustments previously referred to cannot operate in the absence of relatively free movements of goods across international boundaries.

3. *The rules of the gold standard must be scrupulously observed*.

A loss of gold must not be counterbalanced by an expansion of credit at home, for such action prevents the fall in prices which must accompany an export of gold if the flow of trade is to be adjusted. In seeking to avoid declining prices, countries have often created conditions which eventually led to the abandonment of the gold standard.

The gold coin standard. When a government actually coins gold and maintains ready convertibility of all types of money into gold coins, it is said to be on a *gold coin standard*. With a few exceptions, the leading countries of the world were on the gold coin standard before 1914. The tremendous expansion of paper money during World War I and the postwar period when all countries departed from the gold standard stimulated a desire to return to a stable form of money. But the high levels of prices and money incomes which prevailed after this episode made it difficult to secure enough gold to support all the currencies that had previously been so organized. This resulted in a desire to economize the use of gold as far as it was consistent with a gold standard. Consequently the circulation of gold was generally discouraged, and its concentration in the banks and treasuries where it could be used as reserves was encouraged in a number of ways.

The gold bullion standard. The chief discouragement to the circulation of gold was the redemption of money in bullion rather than in coins. When this type of redemption is used, a country is said to be on the *gold bullion standard*. The circulation of gold can be reduced by this method, for gold bars will be accepted in payment for goods and services only after an assay is made to determine their degree of purity. Since this step involves some expense, it is cheaper and easier for the public to pay in other forms of money. A second type of discouragement to the circulation of gold is exemplified by the return of England to the gold bullion standard in 1925, when the money was made redeemable in bars of not less than 400 ounces which sold at a mint price of £3-17s.-10½d. per ounce, or the equivalent of \$8,268 at the parity with gold existing at that time. The limitation of redemption to larger amounts forbade the presentation of small quantities of notes at the mint and the holding of gold by the general public, thereby reducing the demand for gold and permitting the operation of the gold standard on a smaller

reserve than would have been possible if redemption had been made in gold coin.

For all practical purposes, there is no difference between a gold coin and a gold bullion standard. As long as a country stands ready to buy gold with its money and to convert its notes into gold at the same price, no price differential will exist between mint and market rates and hence all monies will circulate at equal values.

The gold exchange standard. Some of the countries returning to the gold standard after the World War established a "limping" gold standard, which is usually referred to as the gold exchange standard, and is distinct from both the gold coin and the gold bullion standards. The gold exchange standard is, like the gold bullion standard, primarily a result of the postwar demand for economy in the use of gold. It had been used more than a century earlier in the operation of the Scottish banks, when redemption was made through the use of bills drawn on deposits in London banks.<sup>1</sup>

Following World War I, several countries, notably Germany, wished to maintain their currencies at a parity with gold for purposes of foreign trade but were unable to do so because of inadequate gold reserves. They accomplished parity by making their monetary unit indirectly convertible into gold; their money was made redeemable in the currency of a country which could so redeem it. Anyone who insisted upon redemption in gold paid a premium in the form of shipping costs from the central bank of the foreign country to his home country.

In some instances, the country on a limping standard kept some gold in its own treasury to use in redeeming notes in gold when the gold was intended for industrial uses at home. Since the greater part of the demand for gold was for use in foreign trade, only small gold reserves were held within the country.

Advantages claimed for the gold standard. The comparatively long history of success with the gold standard in England, and particularly the uninterrupted period from 1821 to 1914, is frequently cited by proponents of the standard as a strong argument in favor of its continued use. During this period, world trade advanced rapidly,

<sup>1</sup> Laughlin, J. Laurence, *A New Exposition of Money, Credit and Prices*, Chicago: The University of Chicago Press, 1931, Vol. 1, p. 468.

national income multiplied, and the accumulation of capital proceeded at a substantial pace. By examination of the period, students have concluded that the standard performed in the manner which the theory of the standard assumed, and have developed arguments for the return to the gold standard. Some of these arguments are listed below.

1. The public has great confidence in gold since it has been highly treasured for centuries. Whereas the monetary issues of states have been repudiated at times, those who held gold were able to continue to command goods in exchange for gold. Moreover, a decline in the political stability of a government has not affected the money holdings of those who were able to obtain gold.

2. The gold standard is an automatic standard which requires little political intervention for its success. Each country selects the quantity of the metal which shall be its monetary unit and, by so doing sets the relation of its money to the money of other countries using the standard. No further action by the government is necessary, for the gold supplies of the world will then be distributed among the various countries on the basis of their needs. Gold will flow to the points where it can command the greatest value and it will command the greatest value wherever it is needed most. A standard operating in this manner does not require periodic changes in the money based upon the judgment of men who are subject to the same weaknesses and lack of foresight that characterize all people. Natural economic forces correct inequities and substitute for the judgment of men.

3. The gold standard is said to require little international agreement or cooperation since each country is free to choose the weight of gold which its monetary unit shall represent. Having made this choice, the relation of its money to all other monies similarly organized will have been established and there will be no need for international conferences and international debate over parities.

4. The gold standard provides a unit of money which is stable in value both for domestic and for international trade. There is some difference of opinion on this question among the proponents of the gold standard, for certain students argue that gold provides only a stable international unit while others believe it to provide a satisfactory measure of stability for domestic trade as well. Professor

Kemmerer<sup>2</sup> argues the latter viewpoint, citing the English experience between 1821 and 1914 when the English index of prices varied between 80 and 120 in all but 14 of the 94 years. There is no argument concerning the fact that the gold standard provides a stable unit for international trade. Exporters and importers, under this standard, can safely undertake obligations quoted in international currencies with little risk of loss from changes in currency values. Of the above arguments in favor of a return to the gold standard, most proponents believe that the strongest reasons are its provision of a stable international standard and its requirement of a minimum of management.

**Disadvantages of the gold standard.** Most of the criticism of the gold standard has come from professional students of money. International bankers and the mining interests have favored a return to the standard although, in some cases, at different prices for gold than those prevailing before its abandonment. The defects usually ascribed to this standard are as follows:

1. The gold standard imposes strict limits upon the latitude of each country for independent domestic action to correct economic maladjustments. This fact applies to monetary management as well as to general economic policy and represents a sacrifice of other objectives in the interest of stable exchange rates.

2. The cost-price structures of modern economies are not flexible enough to permit downward adjustment in the face of a loss of gold without leading to underemployment and depression. Few political regimes in the world are so strongly entrenched as to be able to maintain themselves in the face of these conditions, particularly when the conditions seem to be attributable to the kind of money system employed. The drain of gold can be stopped by not redeeming the money in gold, and while this means a repudiation of the standard, the action will seem preferable to depressed economic conditions.

3. The gold standard has sometimes been defended on the ground that it provides the public a means of expressing its dissatisfaction with given public policies by hoarding gold. The decline of gold reserves will force the government either to abandon the standard

<sup>2</sup> Kemmerer, E. W., *Gold and the Gold Standard*, New York: McGraw-Hill Book Co., Inc., 1944, pp. 190-191.



or forego the policies which led to hoarding. Several objections to this view may be expressed. In the first place, those who hoard gold are not only the nationals of the country whose policies are to be checked but all those who hold balances in the country. Moreover, the check upon policies can be exercised only by those who possess balances in an amount sufficient to make their decision effective. It should be apparent from this that the gold standard affords a check upon a country's monetary and fiscal policies only by financial interests both at home and abroad.

4. The gold standard under certain conditions fails to provide automatic checks upon the movement of gold from one country to another. Suppose that a country were losing gold because of a drain of short-term balances. If the movement reduced the country's reserves to a relatively low level, international speculators would find it advantageous to export gold so as to take advantage of a possible future profit on the fall in the country's currency. Therefore, instead of the outflow of gold being stopped by a fall of prices, its removal to other countries may be increased as its gold reserves are reduced.

5. While the point can have little meaning at this stage of the discussion, it will be seen in later chapters that much of the money supply, at least in the United States, consists of bank deposits or bank credit. Since it is one of the functions of a money standard to control the supply of money, there should be an intimate relation between the amount of the available means of payment and the quantity of gold. Even before the abandonment of the gold standard, great changes in the supply of money were possible through the expansion and contraction of credit often without relation to the changes in the supply of gold available. Hence the quantity of gold available exercised only a broad control over the supply of money.

6. A criticism of the gold standard that is often cited is that the system requires a comparatively high degree of international stability for its successful operation. This criticism recognizes that gold often moves between countries for political and psychological reasons which have little relation to the neat adjustment of prices among countries which the theory of the gold standard assumes. When widespread fears exist or are possible concerning the continuity of a country's political structure, gold will be withdrawn from the country and it will not be able to continue the redemption

of its money. The forced abandonment of the standard frequently leads to withdrawals of gold from other countries and therefore induces a general repudiation of the standard. It therefore is essential to the successful operation of the gold standard that international political stability exist. This argument has been countered with the claim that the best way of promoting political stability is through the gold standard. However, since much of the political instability arises from other than monetary conditions, it is unlikely that a sufficient degree of stability could be obtained in this manner.

## THE BIMETALLIC STANDARD

**Definition.** Bimetallism, in contrast to monometallism, is a double standard, that is, it is based on two metals. In the past, gold and silver have been used exclusively as the base for this money standard, even though any other two metals might be employed for a two-metal system. This double standard was introduced in the hope that any deviation of the actual market ratio between the two metals from the ratio on which the system was based would be impossible. The conditions necessary to the establishment of a bimetallic system are:

1. Free or unlimited coinage of the two metals used as a base—usually gold and silver
2. A fixed legal ratio at which the two metals exchange
3. A stipulation that both metals are legal tender in order to permit concurrent circulation of gold and silver
4. No restrictions on the free internal and external movements of the metals

Whenever a government limits the coinage of either or both metals, it can no longer be said that a true bimetallic system exists. For example, in the United States under the Bland-Allison Act of 1878 and the Sherman Silver Purchase Act of 1890, only a limited amount of silver bullion could be purchased by the Treasury. The resulting system was therefore not bimetallic, for the mint was required to purchase only stated amounts of silver, and the Treasury could at its discretion redeem certain notes in either metal.

The ratio between the two metals. The ratio at which gold and silver are accepted at the mint must be defined by law. From January 18, 1837, to the time of the reduction of the gold content of the dollar under the Roosevelt Administration, the legal, or mint, ratio in the United States was approximately 16:1. Under a bimetallic standard this meant that a coin containing 16 ounces of silver possessed the same legal exchange value as a coin containing 1 ounce of gold. At the beginning of 1933, the silver dollar consisted of 371.25 grains of pure silver, or 412.5 grains of standard weight, that is, silver  $\frac{9}{10}$  fine, whereas the gold dollar contained 23.22 grains of pure gold, or 25.8 grains of standard weight. The market ratio of gold and silver was no longer 16:1 however; in fact, it was closer to 50:1 because the market price of silver in terms of gold or lawful money fluctuated around 40 cents per ounce. Since the bimetallic standard was not in operation, this difference in ratios simply increased the Treasury's book profit from the coinage of silver money.

Under a bimetallic standard, it is essential that the legal ratio correspond to the market ratio. As soon as the one deviates from the other, a profit can be secured by moving one metal out of the market into circulation as money and moving the other metal out of circulation into the market. The principle on which this action is based is called Gresham's Law. Assume a country with a bimetallic standard in which the mint ratio is 16:1. The market ratio would also have to be at the same point, or one of the two metals would circulate and the other would be hoarded. If a discovery of new silver resources caused a fall in the market price of silver and a market ratio of 17:1, and the mint figure should remain unchanged, the mint would overvalue silver. If the two ratios do not agree, it is always said that the mint ratio is incorrect. The reason for this is that the mint ratio is arbitrarily determined, while the market ratio reflects actual conditions of supply and demand. The higher price for silver at the mint compared with the price on the market causes silver owners to present their silver for coinage. Since 1 ounce of gold will buy 17 ounces of silver on the market, the owner of gold coins and other gold articles will reduce them to bullion, until, we shall say, he receives an ounce of gold which he exchanges for silver. Thus silver goes into the mint where it is coined, and gold goes to the market where it can be employed in the arts and industry or hoarded

or shipped abroad. In other words, gold is driven out of circulation by the overvaluation of silver at the mint.

### Alleged advantages of bimetallism.

1. *Scarcity of gold.* In the past, the world has been exposed periodically to a rather widespread fear that gold would not be available in sufficient quantities to sustain a particular price level under a monometallic standard. Tables of falling prices have been presented as proof that gold had appreciated in value because of a diminishing supply of the metal compared with the growing volume of goods. Recently prices have fallen when gold production and available monetary gold stocks were greater than ever before. Nevertheless, this argument was used in the period of controversy over monometallism and bimetallism since the enhanced value of gold, in the years between 1865 and 1896, did not materially increase its production. The old sources of supply were either exhausted or less productive, and no new sources were discovered.

This argument has little validity. While it is doubtless true that the mining of gold ore leaves less to be mined in the future, the devaluation of currencies, this is to say, the reduction of their gold content, in the recent past, has increased the value of the new output by providing a wider margin between costs of production and mint price. Moreover, with increased government control over economic life, it is possible to operate currencies with substantially less gold than was necessary when the degree of control was comparatively slight.

2. *Compensatory or equilibratory action of bimetallism.* The argument that a greater stability of prices could be attained through adherence to a bimetallic standard rests on the so-called compensatory action of the two metals involved. It has been shown that, providing the two metals are both endowed with legal-tender privileges at a fixed ratio, whenever either silver or gold falls in value, under the operation of Gresham's Law, the dearer metal is driven out of circulation and the cheaper metal becomes the monetary standard. If the fixed legal ratio is 16:1 and an increased production of silver changes the market ratio to 17:1, we have seen that the cheaper metal, i.e., silver, ultimately remains as the sole circulating medium or as the money reserve. At this point, the bimetallist

argues, market forces will sooner or later correct the situation and restore the 16:1 ratio in the market. This correction is made in the following manner: The drain of silver from the market into the mint and thence into circulation will reduce the volume of silver available for sale in the market. Thus a tendency to restore the old ratio takes place. The movement of gold into the market from circulation has the same effect, that is, it increases the volume of gold offered for sale and thereby tends to diminish its price in the market. The bimetallist argues that the result of these two movements restores the market ratio to the same level as the mint ratio. The entire compensation takes place in the market, for the mint ratio is fixed by law and is, therefore, not affected by the relative supplies of gold and silver in circulation.

The law of compensatory action is not unsound; it is a simple extension of the supply-and-demand analysis to the market price of two metals. Such a compensation would take place if certain conditions, assumed by the bimetallist, were always present. These conditions are: (1) divergences of the market prices from mint prices shall be small; (2) supplies of the metals in circulation shall be large enough to compensate the divergences; and (3) the public shall not engage in any speculative activity when the market prices fail to correspond to the mint prices. It should be apparent that the first two of these conditions are closely related. If the divergences of the market ratio from the mint ratio are small, little movement of the metals from market to mint and from mint to market will be required for correction. Extreme differences between the two ratios, such as those occurring as a result of large discoveries of one of the metals, place a great strain on the circulating supplies of the other metal. The scarcer metal may be completely withdrawn from circulation without a compensation being effected.

If there is a possibility of complete withdrawal of one metal, the third condition stated above may become important. Speculators, foreseeing the possible shortage, will withdraw large amounts from circulation. Under these circumstances, the movement of the metals becomes self-reinforcing rather than compensating.

3. *International cooperation.* Since the success of the principle of compensatory action is dependent upon the existence of large circulations of both gold and silver, it is often proposed that bimetallism

be organized on an international basis. The establishment of a common mint ratio for all the currencies of the world would greatly increase the amount of the undervalued metal that could be melted down without exhausting the supply in circulation. Under these conditions, the only demand for the metals, other than a monetary demand, would be for use in the arts and industry. This arrangement would unquestionably improve the chances for successful operation of a bimetallic standard.

Unless the leading nations of the world cooperate in the establishment of a bimetallic standard at the same fixed ratio, the threat of an external drain of the undervalued metal will always exist. If international cooperation is not possible, the interaction of the supply and demand for the two metals, representing world-wide forces, will cause gold and silver to flow to the countries whose mints pay the best price. Ample illustrations are available to demonstrate the results of mixed ratios. In 1792, the United States adopted a coinage ratio of 15:1; Spain and France had previously established ratios of 16:1 and 15½:1 respectively. As a consequence, gold was shipped to Spain and France and silver to the United States.

International cooperation, so important to a successful bimetallic standard, has been difficult to secure. All kinds of national interests and national jealousies are at cross purposes with this unanimity of action. A low price for silver may be desired by the English because of a large trade in the Orient at the same time that Mexico and the United States, as well as other large silver producers, desire a high price. The increased holding of gold by one member of the agreement would cause suspicion on the part of the others that the agreement would be repudiated by that member. Furthermore, if the internal condition of a country were greatly depressed, that country would regard the monetary agreement as relatively less important than domestic conditions and would manipulate its money to secure internal conditions more satisfactory to itself, even though this might mean embarrassment to the other subscribers to the agreement.

4. *Production of gold and silver.* The defense of bimetallism rests ultimately on the compensatory action of the double standard in keeping the market ratio identical with the mint ratio. It is thus assumed that there will be a rather small annual production of the two metals compared with existing stocks, or that the relative

amounts of the two metals produced each year will be subject to little change. That this assumption is entirely unwarranted may be seen from an analysis of the statistics of silver production and prices. Between 1900 and the eve of World War I, annual silver production varied between a low of 165,000,000 fine ounces and a high of 225,000,000 ounces; the price fluctuated between 52 and 68 cents per ounce. From 56.3 cents in 1914, the value of silver jumped to \$1.34 per ounce in 1920. Numerous nonmonetary elements were involved in this spectacular rise in silver prices, which was accompanied by declining silver production. For example, rising costs, due to war conditions, forced the closing of many marginal mines. Mexico, one of the large silver producers, suffered from revolutionary convulsions. Furthermore, since almost three-fourths of modern silver production is a by-product of the production of other metals, production declined as the demand for munitions fell after 1918. From the high prices of 1920, silver dropped to 24.56 cents per ounce in 1932, the lowest price in the entire recorded history of silver. World production rose from 171,300,000 ounces in 1921 to 261,000,000 in 1929, only to fall again in 1933 to 164,000,000 ounces. The production of gold during these years generally moved in the opposite direction from the production of silver. It seems, therefore, that the alleged compensatory action of the double standard, while logically sound if the premises be granted, would have been difficult to operate against these extensive fluctuations in prices and production.

**Prospect for bimetallism.** Students of money were inclined to believe that the passage of the Gold Standard Act of 1900 in the United States had settled the issue of bimetallism. The arguments for and against the system had been thoroughly discussed in public debates and the country had chosen a monometallic standard. Yet, the issue of bimetallism, involving as it does the self-interest of certain economic groups, has been periodically revived in various forms. The silver producers have been successful in recent years in allying themselves and their issue with the large debtor class of the farm belt and have once again passed legislation with respect to silver which has been disturbing to both national and international monetary stability. It seems that as long as the country has silver producers, it

will have the issue of silver money or bimetallism. The prospect for complete remonetization, fortunately, is not bright. A system with so little to recommend it, so filled with obvious self-interest, and designed to alleviate a condition that can be more effectively attacked by other methods, is not likely to find the wide acceptance necessary for its adoption. The whole trend of modern thought on money questions lies in a very different direction, as will be seen below.

## THE COMMODITY RESERVE PROPOSAL

Proposals have been offered for several decades urging that money be organized on the basis of commodities as the reserve. The most recent of these will be described below. While there seems to be no likelihood of such a system being adopted in the near future, this proposal has been defended by several of the world's leading students of money. The purpose in presenting this suggested standard is to bring out certain features of monetary organization not specifically encountered in the consideration of the gold and other standards.

The purposes of the commodity reserve proposal, as stated by Mr. Benjamin Graham,<sup>3</sup> its leading exponent, are: first "to establish a reservoir into which surplus commodities may be moved without demoralizing the commodity markets." "Second, the reservoir system will function not only as an equalizer of business conditions, but also as a national store to meet future emergencies." "Third, the price level for the component commodities as a whole will be fixed in the same way as the dollar value of gold was formerly fixed." "Fourth, a currency will be created essentially sounder than any we have, because it will be backed by and convertible into tangible, basic goods that we use and need."

**Mechanics of the plan.** The establishment of the commodity reserve proposal involves, first, the selection of the commodities to be used to back the currency. Graham would make this selection on the basis of several criteria. These criteria are that the commodities be

<sup>3</sup> By permission from *Storage and Stability*, by Benjamin Graham, Copyrighted 1937, by McGraw-Hill Book Co., Inc., p. 50.



traded regularly on an organized exchange, that they be commodities not requiring special storage conditions, and that they retain their value over a reasonably long period of time. Since trading in organized exchanges usually provides for the rotation of commodities in storage, the choice of commodities that will retain their value is largely a matter of assuring that technological changes do not reduce the importance of the goods chosen.

Once the commodities to be included in the reserve have been determined, the next problem is the determination of the amount of each which shall be included in the unit. Table 1 indicates the manner in which this would be done. Since Graham's proposal is now several years old and the price level has changed substantially since, he would no doubt favor the selection of a period closer to the present which would give effect to changes in the relative amounts of the various items now produced as well as to their availability during a period when commodities are difficult to obtain.

Operation of the plan. Once the commodity reserve had been established by Congressional enactment, a monetary authority, perhaps the Treasury, would be authorized to issue currency in amounts of \$1,000 to anyone presenting contracts for commodities in the amounts specified. These are the amounts shown in column VI in Table 1. Contrariwise, the Treasury would also deliver such commodity contracts in these amounts to anyone asking for redemption of his money in commodities. Under this arrangement, if supply and demand conditions caused a rise in the prices of the commodities above the amount which the Treasury is willing to give for them, money would be presented for redemption and the contracts obtained would be sold. On the other hand, if the prices of the commodities dropped in the market, a profit could be obtained by purchasing contracts for commodities in the relative amounts specified in the table and presenting them to the Treasury for currency. In both of these cases, the market price of the aggregate bill of goods would tend to return toward the Treasury price for the goods, for two reasons. In the case of a rising market price, the supply of goods available to the market will be augmented by contracts for commodities received from the Treasury. Moreover, the general presentation of currency for contracts at the Treasury would reduce the supply of money in the market and likewise exert a downward influ-

TABLE 1

THE COMMODITY UNIT<sup>4</sup>

Commodity I	Unit of quantity II	Average production or consumption 1921-1930, millions III	Weighted average price, 1921-1930 IV	Average value of production or consumption 1921-1930, millions of dollars V	Amount of commodity in 1,000 one-dollar units VI	Value of commodity in 1,000 commodity units, 1921-1930 average VII	Price, June 1937, cents VIII	Value of commodity in 1,000 commodity units, June 1937 IX
Wheat	Bushel	824	\$1.240	\$1,022	84.4	\$104.9	123	\$103.8
Barley	Bushel	212	0.666	141	21.7	14.4	81	17.6
Cocoa	Pound	394	0.102	40	40.4	4.2	7.4	3.0
Coffee	Pound	1,421	0.172	244	145.5	25.1	10.9	15.8
Corn	Bushel	2,618	0.816	2,139	268.0	218.9	120	322.0
Cottonseed oil	Pound	1,258	0.100	125	128.8	12.8	10	12.9
Oats	Bushel	1,220	0.443	540	125.0	56.6	48	60.0
Rye	Bushel	52	0.908	47	5.3	4.8	99	5.3
Sugar	Pound	12,670	0.061	771	1,297.2	78.9	4.6	59.7
Cotton	Pound	6,588	0.205	1,349	674.8	138.2	12.7	85.6
Silk	Pound	74	5.890	437	7.6	44.8	183	13.9
Wool	Pound	263	1.156	304	26.9	31.2	100	26.9
Copper	Pound	1,485	0.143	211	152.2	21.6	13.8	21.0
Lead	Pound	1,370	0.070	96	140.4	9.8	6.0	8.4
Tin	Pound	154	0.484	75	15.8	7.7	55.8	8.7
Zinc	Pound	1,003	0.063	63	102.7	6.5	6.8	7.0
Cottonseed meal	Pound	4,064	0.018	71	416.0	7.3	1.6	6.7
Flaxseed	Bushel	37	2.460	91	3.8	9.3	192	7.3
Hides	Pound	949	0.168	160	97.2	16.4	16.8	16.3
Petroleum	Barrel	772	1.640	1,265	79.1	129.5	136	107.5
Rubber	Pound	824	0.308	253	84.4	25.9	19.3	16.3
Tallow	Pound	510	0.078	40	52.2	4.2	8.0	4.2
Tobacco	Pound	1,346	0.210	283	137.9	29.0	(est.) 25	34.5
Total				\$9,767		\$1,000		\$964.4

<sup>4</sup> By permission from *Storage and Stability*, by Benjamin Graham, Copyrighted 1937, by McGraw-Hill Book Co., Inc., p. 57.

ence on the level of prices. The contrary would, of course, be true if the price level tended to fall.

Suppose instead of a general rise or fall in the prices of all commodities in the index, that only one commodity suffered a sharp rise or fall of price, how then does the proposal operate? In such a case, the rise in the price of the single commodity, assuming the rise to be great enough to raise the level of the entire list, would cause currency to be presented to the Treasury and the contracts obtained to be sold in the market. The composite price of the unit would then be lowered by a decline in the price, not only of the commodity in short supply, but also by declines in the prices of the other twenty-two commodities.

The proponents of this method of organizing the money system admit that periodically the index would have to be adjusted for changes in the relative importance of the individual commodities as well as for substantial changes in the costs of their production. This revision of the index might be required about once each decade.

In placing the plan into operation, it would probably be desirable to choose a time when the world supply of commodities had increased sufficiently to force a decline from currently high levels of prices. To do otherwise would require the storage of goods that are urgently needed for world rehabilitation and redevelopment.

**Advantages claimed for the plan.** The advocates of a commodity reserve plan for the organization of the money system claim a number of advantages for it compared to the gold or other standards which have been proposed.

First, it is believed that the plan will foster greater stability of the volume of business and income for the reason that, when commodity prices decline, their purchase for delivery to the Treasury will temper the decline and lead to their continued production. The continuation of production on a comparatively even basis will provide employment and retard downward movements of business activity. When business volumes are advancing, the use of stored commodities will enable the advance to continue for a longer time without price disturbances than would have been possible had the commodity reservoir not existed.

Second, it is stated that the plan will greatly aid in the stabiliza-

tion of price levels, since the most important of the basic commodities will have been stabilized. The manner in which this stabilization will be accomplished has been explained above. It is further argued, however, that the effect of stabilizing these commodity prices will have a great effect upon the entire structure of costs and selling prices.

Third, the plan requires little management except the decennial change of the index to conform to changing conditions; thus it is automatic in somewhat the same way in which the gold standard is automatic. The plan therefore requires no extraordinarily wise administration for its success.

Fourth, the supply of money would be responsive to the desire to have money to hoard. Under prevailing regulations, the supply of money increases and decreases with the volume of bank credit outstanding. In the past, when the volume of bank credit outstanding declined during a period of business depression, the volume of money declined also. During such periods, especially when the public at large desired to limit their losses on securities and commodities by selling them for money, the demand for money increased just when the supply of it decreased. Under the commodity reserve plan, this condition would not exist, for a decline in prices would bring an increase of money to supply the higher demand. The same result would occur under a gold standard, for a decline in prices lowers the cost of mining gold, making profitable the use of lower grade ores as well as more intensive utilization of the higher grades. The difference between the two systems is that the commodity reserve plan permits a spontaneous change in the money supply, while the response of gold production in a volume sufficient to affect prices may require several years.

The above list does not exhaust the advantages claimed for this proposal; their examination at this point, however, is undesirable, partly because their consideration requires some knowledge of international exchange and partly because the advantages are not strictly monetary in nature.

**Weaknesses of the proposal.** Although the commodity reserve proposal represents a radical departure from methods of monetary organization previously employed, it has not received the debate

about it which might have been expected from a plan which claimed so much and which therefore promised so much. Perhaps this absence of debate can be accounted for by the fact that similar proposals have been made at intervals over the past several decades and therefore many of the issues have already been considered. Nevertheless, there are at least three criticisms which have been offered albeit with little effort to establish their soundness in preventing a trial of the proposal.

First, it is stated that the plan contains overwhelmingly difficult problems of administration, since the person who presented commodity contracts to the Treasury would have to present them in specified proportions to each other. Other problems of this type are the provision for storage of commodities being used as a currency reserve and their segregation from similar commodities not serving this purpose.

Second, it is believed by certain critics that the plan would be very costly, since it would require at times the storage of several billions of dollars of goods. This criticism must be evaluated against the appalling losses of income which occur during depressions, so that if the scheme proved successful, the costs of storage would not be an unreasonable burden.

Third, the plan would create a political bloc of enormous strength by combining into one single economic interest the major raw material producers. If the plan were introduced in a period of falling prices and falling costs so that the Treasury was required to purchase for \$1,000 goods which were selling for \$900, commodity contracts would be presented to the Treasury in large quantities, and the market price would immediately equal the Treasury price. But the costs of production would not rise as rapidly as selling prices, so that raw material producers would find themselves making large profits from their operations. Eventually, however, competition among such producers would raise their costs and reduce or eliminate the profit margin. At such a time, it is likely that raw material producers would exert all possible political pressure to bring about an increase in the Treasury price for the composite commodity. If this occurred, the plan would foster a system of permanent but gradual inflation of the money to the advantage of a part of the population.

## THE IRREDEEMABLE PAPER STANDARD

Strictly speaking, the paper standard is usually a lack of a standard, the country issuing such money making little or no effort to maintain the purchasing power of its currency. In recent years, however, repudiation of the gold standard left many countries without any systematic basis for redemption of their currencies so that, in order to avoid the consequences of a rapid depreciation of their money, measures were introduced to fix and maintain both the internal and the external value of money. These latter-day measures have at times been identified with the term "managed money" or "exchange control" to distinguish them from currency issued by governments that made little effort to maintain the value of their money.

Historically, the issuance of irredeemable currency has been accompanied by widely varying results, depending upon the economic and political conditions prevailing at the time, as well as the circumstances under which such issues were circulated. In general, there have been two widely different circumstances that have caused governments to resort to this type of money issue.

First, if a country is at war, the expenses of government increase sharply and tax revenues more slowly, leaving a deficit between income and expenditures. This deficit may be covered by taxation and by borrowing for a period of time, the length of which is conditioned by the relation of the size of the deficit to the volume of the national resources. But if resources are not readily released to the government through public purchases of government bonds, issues of fiat money are frequently employed. The spending of income by private individuals under these circumstances and the diminution of the labor supply for military service further reduce the resources available for productive purposes.

The main characteristic of inflationary periods growing out of such conditions is that the desire for military victory is the compelling reason dictating the continuation of fiat issues even when the rise of prices has indicated the futility of such a policy. The government can divert resources to war purposes under these conditions only by inflating the money at a constantly increasing rate. The money which it spends today becomes consumer income tomorrow

so that, if resources are to be devoted to war purposes, the government's spending power must be greater than that of the consumer whose income depends largely upon the government's spending rate in the previous period.

Second, an inflation of prices has not resulted when the issuance of fiat money has been undertaken for the deliberate purpose of raising prices or relieving a shortage of money supplies. Two factors account for the difference of results in such cases: (1) the cause of the issue is economic and therefore the money is not printed in increasing quantities as it is when a war is being financed; (2) the level of output is generally well below that of full employment, making it possible for supply to increase under the stimulus of new demand.

While it is comparatively easy to describe the results of irredeemable paper issues under either conditions of low employment or the full employment that accompanies wars, particularly when the issues of money are very large or relatively small, in actual cases the results will be found to vary when other controls are introduced into the problem. In the recent war, the widespread use of rationing and price control were fairly effective in preventing inflationary rises of prices. These controls, in a sense, represented a cancellation of the medium of exchange function of money since money was exchangeable for certain commodities only in specified amounts and at stated prices. Since money could not function freely as a medium of exchange, it was converted to a store of value against the day when controls would be abandoned and goods would be more abundant.

### STUDY QUESTIONS

1. Comment on the truth or falsity of the following statements:
  - a. Under the commodity reserve standard, an increase in the supply of one commodity would tend to raise the prices of other commodities included in the reserve.
  - b. Great technological improvements would cause the supply of money to increase under the commodity reserve standard.
  - c. It is possible for a country to be on the gold standard even though it does not coin gold.
  - d. The price, not the value of gold, may be fixed by Congress.
2. If a country employing the bimetallic standard at a mint ratio of 16:1 found that only gold was circulating, would the market ratio be above or below the mint ratio?

3. Are the gold standard and the protective tariff consistent? Explain.
4. Show how the supply of money will react to business cycle changes under: (a) the gold standard; (b) the commodity reserve standard.
5. "The international gold standard requires international cooperation since it subjects domestic economic policies to international review." Do you agree? Explain.
6. How does the use of the gold exchange standard economize gold? Show how an increased public demand for gold would affect money under the gold standard and the gold exchange standard.



# CHAPTER

## 3

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### CURRENT MONETARY ORGANIZATION IN THE UNITED STATES

**Introduction.** The alert student of money and banking will undoubtedly have many questions in mind concerning the present monetary and banking system of the United States, such as the present significance of gold in this system and the meaning of the large quantity of gold now held by the government, the silver buying policy and the reasons for its continuation, the kinds of money in circulation and the conditions which govern the amount of each. In addition to supplying factual information to satisfy the curiosity of people who want to possess a slightly greater knowledge of the characteristics of the various forms of money in use in the United States, the answers to these questions furnish information that is necessary to a more complete understanding of the operation of our present monetary and banking system.

While it is not possible at this stage to enter into a discussion of the manner in which the banking system affects these problems, it must be realized that the greatest part of all payments made in the country today are made by the transfer of a bank deposit by means of a bank check. Hence, the discussion of some of the features of the monetary part of the system of payments must leave to a later time the problems which characterize the operation of the banking system. The discussion will therefore be incomplete in that it will not consider the banking system and its relation to the supply of money available for making payments.

This description of the monetary organization in the United States will be divided into three parts: (1) the kinds of money in circulation and their amounts; (2) the silver-buying program and the influence which it exerts on the supply of money; and (3) the present significance of gold and some questions relating to its use.

## UNITED STATES MONEY IN CIRCULATION

There are presented in Table 2 the kinds and amounts of money in circulation in the United States as of September 30, 1947. These figures were presented in the Federal Reserve Bulletin for November, 1947; supplementary data may be found in later bulletins whenever such data are required.

In commenting on this table, we must first define the terms which are used. The most important of these is the word "circulation." This word has a variety of meanings in the study of money and is also used in everyday speech in a variety of ways. Sometimes it is taken to mean money that is used in a given period of time in the purchase of goods, services, securities, commodities, or real estate, and when so used is contrasted with money that has not turned over and is hoarded. This usage will not stand up under rigorous analysis, for the result obtained depends upon the period of time chosen. Other times the word "circulation" is used to denote the money in the hands of the public in contrast to money in the banks and the Treasury. There is nothing wrong with such a usage but it will often be found that the data for "money in circulation" do not conform to this definition. In the table below, the word is used to indicate money which is outside the money-issuing institutions. For example, money which the Treasury has issued and is not now in its own vaults or the Federal Reserve banks is counted as money in circulation; money which has been issued by the Federal Reserve banks and which is now held by other banks, institutions, and individuals is considered to be in circulation. From this definition, it is clear that a part of the money shown as being in circulation has, in fact, been destroyed, part of it has been lost, and some part of it is probably held in hoards both within the country and abroad. It is impossible for the compilers of statistics to do more than state the amounts which have been issued by the Treasury and the Fed-

TABLE 2

## UNITED STATES MONEY, OUTSTANDING AND IN CIRCULATION, BY KINDS

[On basis of circulation statement of United States money. In millions of dollars]

	Total out- standing, Sept. 30, 1947	Money held in the Treasury			Money held by Federal Reserve Banks and agents	Money in circulation <sup>1</sup>		
		As secur- ity against gold and silver certificates	Treasury cash	For Federal Reserve Banks and agents		Sept. 30, 1947	Aug. 31, 1947	Sept. 30, 1946
Gold	21,955	20,770	* 1,185	17,907	2,815	47	47	50
Gold certificates	20,770		70		871	24,289	24,151	24,237
Federal Reserve notes	25,230		55		267	4,231	4,236	4,220
Treasury currency—total	4,552	* 2,246						
Standard silver dollars	493	315	24		3	151	150	144
Silver bullion	1,931	1,931						
Silver certificates and Treasury notes of 1890	* 2,246				202	2,044	2,052	2,010
Subsidiary silver coin	926	15	15		23	887	878	862
Minor coin	352	10	10		5	337	334	325
United States notes	347	3	3		27	317	320	315
Federal Reserve Bank notes	397	1	1		5	391	397	451
National Bank notes	106	( <sup>2</sup> )	( <sup>2</sup> )		1	105	106	112
Total—September 30, 1947	( <sup>4</sup> )	23,016	1,309	17,907	3,954	23,567	28,434	28,507
August 31, 1947	( <sup>4</sup> )	22,823	1,323	17,719	3,808			
September 30, 1946	( <sup>4</sup> )	20,386	2,289	15,280	3,897			

For footnotes, see next page.

eral Reserve banks, which two institutions are the sources of all money in circulation in the United States.

Gold and gold certificates. Under the Gold Reserve Act, which became effective on January 30, 1934, title to all monetary gold in the United States was assumed by the government, and the Secretary of the Treasury was given the power to prescribe the conditions under which gold could be held, acquired, or transported by industrial users and the Federal Reserve banks. Any gold now within the continental limits of the United States is (1) held by industrial users under licenses from the Treasury, (2) in the hands of gold producers awaiting sale to one of the mints of the United States, (3) held by the Federal Reserve banks under earmark for foreign governments and individuals under approval from the Treasury, (4) held by individuals in the form of jewelry, plate, or as dental fixtures, or (5) in the possession of the United States Government. The third of these may require comment. When gold is held under earmark, it is in the vaults of one institution but is the specific property of another owner who may claim the gold whenever he desires. Such gold does not enter into the statistics of the United States when in the vaults of American banking firms, but is reported in the holdings of the foreign organization which had the gold placed under earmark.

Due to the Gold Reserve Act, all gold shown in the circulation statement is shown in the possession of the Treasury. It will be observed that of the total of \$21,955 million shown, \$20,770 million is being used as security for gold certificates outstanding. The remainder, \$1,185 million, consists of a reserve of \$156 million required

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<sup>1</sup> Outside Treasury and Federal Reserve Banks. Includes any paper currency held outside the continental limits of the United States; totals by weeks are shown in table on p. 1377, and seasonally adjusted figures in table on p. 1386. [*Federal Reserve Bulletin*, November, 1947]

<sup>2</sup> Includes \$156,039,431 held as reserve against United States notes and Treasury notes of 1890.

<sup>3</sup> To avoid duplication, amount of silver dollars and bullion held as security against silver certificates and Treasury notes of 1890 outstanding is not included in total Treasury currency outstanding.

<sup>4</sup> Because some of the types of money shown are held as collateral or reserves against other types, a grand total of all types has no special significance and is not shown. See note of explanation of these duplications.

<sup>5</sup> Less than \$500,000.

Source: *Federal Reserve Bulletin*, November 1947, p. 1385.

by law for security for the United States notes and Treasury notes of 1890 that are outstanding; the balance of this item consists of gold which the Treasury holds as "Treasury cash" but which has not been monetized by the issuance of gold certificates against it.

When gold enters the country, title to it is taken by the Treasury unless the metal is consigned to earmark. The Treasury, under ordinary circumstances, pays for this gold by a check on its deposit at a Federal Reserve bank and then reestablishes its account with the Federal Reserve bank by issuing gold certificates to it. The gold importer receives a check which may be used to establish an account at a commercial bank and then draws checks against the account in purchasing goods and services. The Gold Reserve Act established this method of paying for gold but forbade the payment of gold certificates to any other person or institution except the Reserve banks. The \$47 million shown to be in circulation was in the hands of the public at the time of the act and has not been returned from circulation either because its holders are ignorant of the law or because it has been lost or destroyed.

**Federal Reserve Notes.** It is not possible to enter into a complete discussion of the issuance of Federal Reserve notes until a discussion of all the features of the Federal Reserve System is possible. These notes are issued by the twelve regional banks and are circulated in denominations of \$5 upward to \$10,000. The reserve for them consists of the gold certificates discussed above and government bonds or eligible paper which has been presented to the Federal Reserve banks by the commercial banks of the country for rediscount. They come into circulation when the public withdraws currency from banks and the banks find it necessary to replenish their vault cash by drawing on their balances at the Federal Reserve banks.

**Standard silver dollars.** The silver dollar coined and issued by the Treasury contains 371.25 grains of pure silver and 41.25 grains of alloy which is added to give hardness. The coin then weighs 412.50 grains. Since there are 480 grains in a troy ounce, the mint gives a value of \$1.29 to each ounce of silver, that is, one ounce will provide enough silver to make that number of dollars. Since silver costs the mint considerably less than this, it is possible for the government to make a profit by issuing silver money. Under the present administration of monetary laws, the Treasury has not taken this profit or

seigniorage but has simply carried it as a credit on its circulation statement.

It will be observed from the table that the greater part of all silver dollars coined by the mint are held by the Treasury as collateral for silver certificates outstanding. Most of the silver dollars in circulation are in the western part of the United States where they have been popular as a form of circulating money.

One must not assume that the existence of silver as a part of the circulating money in the United States proves that the country is employing a bimetallic standard. This standard requires that gold and silver be coined at a fixed ratio and in *unlimited amounts* as presented to the mint by the public. The coinage of silver shown in the table is on government account, that is, the government decides the amount of the coinage. It is true that the public, by asking the banks for silver dollars instead of currency, could cause the circulation of these dollars to increase. Nevertheless, the government and not the public would receive the profit therefrom. Moreover, there would be no inclination, under current market conditions, for the public to melt down the coins to obtain silver, since, with a market price of 75 cents per ounce, the silver obtained from melting would sell for only 58 cents. The use of silver in our circulation must be explained on other grounds than the existence of bimetallism. This subject is examined in greater detail below.

**Subsidiary silver and minor coins.** The subsidiary silver in the circulation consists of the 10-cent, 25-cent, and 50-cent pieces. These coins weigh slightly less than standard silver dollars, that is, they weigh 6.47 per cent less than standard weight or 385.5 grains, nine-tenths fine, or 347.23 grains of pure silver per dollar's worth of coins at face value. This reduction of weight below the standard was originally made to prevent coins from being melted down during periods of high silver prices.

Minor coins are the 5-cent and 1-cent pieces consisting of nickel and copper alloys. These coins as well as the subsidiary silver are issued in amounts determined by the requirements of the circulation as these requirements are expressed by public withdrawals of coins from the commercial banks. If the public withdraws larger amounts of these coins from the banks, the banks in turn ask the Federal Reserve banks for larger amounts and the Federal Reserve

obtains the coins from the mints. After the demand for small coins has subsided, their deposit at the banks causes the banks to return them to the Federal Reserve banks for deposit to their accounts, and these banks return them to the Treasury or hold them for future use.

**United States Notes.** United States Notes or greenbacks were first issued in 1862 to aid in financing the Civil War. The amount now authorized is \$346,681,016 and when they are presented to the Treasury in making payments, they are reissued. The Gold Standard Act of 1900 provided for continued circulation of these notes, but required that a reserve of \$156 million in gold be maintained to guarantee their redemption. This aspect of the law continues to be complied with nominally although it has no significance today when none of the money is redeemable in gold for domestic purposes.

**Federal Reserve bank notes and national bank notes.** These components of the circulation are of little significance today. The former have served as an emergency currency at various times since the establishment of the Federal Reserve System. The last authorization for their issuance was made during the banking crisis of 1933, when approximately \$200 million were issued. Later—in 1942–1943—the Treasury issued a considerable amount of the notes which were printed but not issued in 1933. In 1943, the amount in circulation was approximately \$640 million. In 1945, Congress terminated the authority of the Federal Reserve banks to issue Federal Reserve bank notes, whereupon the Treasury retired them as they became unfit for continued circulation. National bank notes were authorized under the National Banking Act of 1863 and constituted the only form of bank notes in circulation until 1913 when the Federal Reserve System was set up and empowered to issue notes. National bank notes were the obligation of the issuing banks at the time they were originally issued, but they are now the sole obligations of the Treasury, for the issuing banks have deposited government bonds with the Treasury to guarantee the redemption of these notes when presented. The same is true of the Federal Reserve bank notes which were originally the obligation of the Federal Reserve with government bonds as backing; the collateral for their redemption has been presented to the Treasury and they are now retired from circulation when presented to the Treasury.

## SILVER IN THE AMERICAN CURRENCY SYSTEM

Silver has been a part of the monetary system in the United States since the passage of the mint act in 1791 setting up a bimetallic system. From 1873, when the free coinage of the silver dollar was abandoned and bimetallism was discontinued, silver has occupied a subsidiary position compared to gold. Silver, however, has supplied the medium through which a significant volume of coins and currency has been put into circulation. Congress has by legislative enactments required the Treasury to purchase silver and to issue silver coins or silver certificates. The most important legislation governing the place of silver in the system at present is the Silver Purchase Act of June 19, 1934, and the amendments to this act passed by Congress to govern the price at which silver should be purchased by the Treasury.

The most important provisions of the Silver Purchase Act required the Treasury to purchase newly mined domestic silver, until the market price of silver reached \$1.2929 per ounce or until the total silver held by the Treasury equaled one-fourth of the total gold and silver holdings. Silver has been purchased by the Treasury under this act by giving the silver-mining companies silver certificates in exchange for newly mined bullion. The prices paid have been governed, not by market conditions, but by prices specified by the Congress or established by the Treasury under rules set up by Congress. During the years 1940-1946, the price was set at 71.11 cents per ounce; in July 1946, Congress required the Treasury to raise its buying price to 90.5 cents and permitted the Treasury to sell silver not required for currency backing at a price higher than the buying price. The Treasury established 91 cents as its selling price under this act.

Effects of silver legislation on the currency in circulation. Table 3 indicates the manner in which the Silver Purchase Act and its amendments have influenced the type of money in circulation in the United States. Prior to the act, silver of various types made up only about 12 per cent of the total circulation; by 1939 this percentage had increased to more than 26 per cent of the total. In the years since 1939, the amount of silver in circulation has continued to increase but less rapidly than other forms of circulating money, conse-



quently the percentage of silver has fallen to the former level. The failure of silver to keep pace with the general rise of currency in circulation may be attributed in large part to the adaptability of silver for war purposes and to the fact that mining was made more difficult during the war years by rising costs of production and by rationing of man power and industrial equipment. Production of silver in the United States and its territories fell from 72,336,000 fine ounces in 1941 to 40,821,000 in 1943. The more favorable price offered by current legislation has undoubtedly aided the increase of silver production since 1946.

TABLE 3

SILVER CIRCULATION IN COMPARISON TO TOTAL CURRENCY  
IN CIRCULATION, U.S. 1932-1947

(Money outside Treasury and Federal Reserve Banks)  
In millions of dollars

End of year	Standard silver dollar	Silver certificates and Treas- ury notes of 1890	Subsidiary silver	Total silver circulation	Total circulation, all money	Percentage of total circulation represented by silver
1932	29	372	258	659	5459	11.6
1933	29	406	271	706	5675	12.2
1934	32	593	294	919	5804	16.6
1935	34	829	312	1175	5536	20.0
1936	38	1058	337	1433	5882	21.9
1937	40	1138	350	1528	6543	23.3
1938	42	1340	357	1739	6550	25.4
1939	45	1555	381	1981	6856	26.1
1940	50	1668	412	2130	7598	24.4
1941	60	1734	481	2275	8732	20.4
1942	76	1752	575	2403	11160	15.6
1943	95	1567	671	2333	15410	11.4
1944	116	1612	759	2487	20449	9.8
1945	136	1873	832	2841	25307	10.0
1946	148	2011	882	3041	28515	10.5
1947	154	2040	908	3092	28868	10.7

Source: *Federal Reserve Bulletins*.

In further comment on Table 3 it should be recognized that silver makes up the bulk of the fractional coinage and that silver certificates are issued in the smaller denominations which cannot be supplied by the Federal Reserve notes or United States notes since these issues are in denominations of \$5 and up. Consequently, it is possible to assume that, unless changes had been made in existing laws

governing the denominations in which other notes could be issued, silver certificates and coins would have been issued in larger amounts than formerly even if the legislation favoring silver had not been passed. On the other hand, the Treasury was forced by the legislation to pay prices well above the existing market to satisfy the conditions of the silver act. For example, the following figures indicate the Treasury buying prices during certain years compared to the London price, converted to dollars:

Annual averages	London market price—cents per ounce	Treasury buying price—cents per ounce
1935	63.9	71.875
1936	44.9	77.45
1937	44.7	77.35
1938	43.0	64.64
1939	40.8	67.87
1940	38.4	71.11

It is obvious that the silver act forced the Treasury to purchase silver at prices well above those prevailing in the market and that, if the circulation had required additional silver circulation, it could have been issued on much more favorable terms for the general public by the purchase of silver at the market price.

Economic effects of the Silver Purchase Act. Much has been written in appraisal of the Silver Purchase Act since its passage, and the bulk of the arguments of monetary students has been in condemnation of the act as being not only class legislation in setting highly arbitrary values for silver but also as a very disturbing element in world monetary organization.

The data for silver mining in the United States do not permit an accurate determination of the number of wage-earners who are dependent upon silver mining for their livelihood, because part of the silver is mined as a joint product in the mining of gold, copper, lead, and zinc. A rough estimate of the number would be less than 10,000 receiving wages of about \$10 million per year in 1939. Nor is the number of companies very large, for probably one thousand would include all producers of ore. For this relatively small part of the total economy, a great investment by the government has been undertaken largely because of the political power of their representatives in the Congress. It might seem that such a few representatives

would find it impossible to foist on the public such expensive legislation unless others were in agreement with their cause. They have been able to accomplish their goal by their unity of purpose and their willingness to support other legislation in return for support for their own cause.

Not only have the silver interests sought to advance the welfare of their industry by the purchase of domestically mined silver at prices well above the market, they have also caused the Treasury to purchase silver from other countries, often at prices that exceed the prevailing market price. In all of these actions, the effect has been to shorten the supply of silver and thus to raise the market price above that which would have been established by the market without the abnormal demand of our government.

In raising the world silver price, the silver interests claimed to have an interest in raising the purchasing power of those countries, such as India and China, whose currencies were organized on silver rather than gold. Instead of aiding them, the high price drained their silver from circulation and forced them to use either baser metals or a paper standard. Thus while the policy might have given these countries a temporary advantage in exchanging their silver for goods, the ultimate result of inflated money levied a greater social cost than the advantage of the higher metal price. Furthermore the silver interests have not only lost one of their major markets for the metal which these countries had contributed but they also drained large quantities of silver from the hoards of these countries.

The extent to which the Silver Purchase Act contributed to foreign disposition of silver may be approximated by reference to the statistics of silver production for the United States and its territories for the years 1934-1943, inclusive. During these years the value of the silver produced when measured by the Treasury's buying prices equaled \$414 million. During these same years the silver circulation increased from \$706 million to \$2,333 millions, or by \$1,627 million.

In conclusion, it must be stated that the silver legislation which has led to great increases in the monetary circulation based upon silver has served no general economic purpose except to advance the interests of a few silver producers. It is questionable whether the wage-earners in the industry have been materially benefited by the act. The money which has been issued as a result of the law could

have been issued in other and far less expensive ways by changes in the law regulating the denominations of the other types of money that are issued. And it is questionable whether the silver interests have served their own cause very well over the long run, for the policy of the United States in raising the market price has probably reduced the long-term demand for silver for coinage purposes. Such conclusions have a way of being unsatisfactory to students because students are seeking the logic and the pattern of contemporary affairs, but it must be confessed that this part of our monetary system was not devised by careful study of our currency requirements but rather is based upon the ability of a small group to force the nation to accept legislation favorable to its own interests.

## GOLD AND THE PRESENT MONETARY SYSTEM

The place of gold in the present monetary organization of the United States is likely to be rather bewildering, for, while the country abandoned the standard in its classic form in 1933, gold continues to be discussed in the daily press as if the country were still on the gold standard. Gold imports are regarded by the banking community and the public alike as events of special significance. Yet the public is forbidden to hold gold and cannot have its money redeemed in gold. This being the case, the question arises as to the significance of the vast gold hoard now held by the government. In seeking an answer to these questions, the starting point is the monetary legislation passed in 1934 which has been called the Gold Reserve Act. In its original form, this act gave the President and the Secretary of the Treasury certain powers over the purchase and holding of gold by the United States government. Specifically, the Secretary of the Treasury was authorized with the approval of the President to reduce the gold weight of the dollar by not less than 40 per cent nor more than 50 per cent. Acting under this authority, the price of gold was raised from \$20.67 per ounce to \$35 per ounce, thereby reducing the gold content of the dollar by 40.94 per cent. This price was established by presidential proclamation on January 31, 1934, and it has prevailed since that time. When the price had been \$20.67 the weight of the dollar was 23.22 grains fine; under the new price the weight is 13.7142 grains fine.

The power to change the weight of the gold dollar was originally given to the President for a period of two years and was subsequently extended by Congress in successive acts until the power was allowed to expire without renewal on July 1, 1943. But the Gold Reserve Act also gave the Secretary of the Treasury power to buy and sell gold on any terms which he found to be in the public interest. This power was not limited to any period of time and there is some question whether later acts of the Congress have or have not abrogated it. For example, the act passed in July, 1945, authorizing participation in the Bretton Woods Agreement states that "Unless Congress by law authorizes such action, neither the President nor any person or agency shall on behalf of the United States . . . propose or agree to any change in the par value of the United States dollar under Article IV, Section 5, . . ." <sup>1</sup>

The ambiguity of the law in treating this aspect of our monetary operations has led to periodic speculation throughout the world concerning changes in the dollar price of gold. During the summer of 1947 there were recommendations from certain writers that the United States raise the purchase price of gold to \$50 per fine ounce. These suggestions led to some speculation in gold abroad and hampered the efforts of certain countries to stabilize the value of their currencies.

The present monetary standard. The monetary standard of the United States is sometimes called a restricted international gold bullion standard, and this designation is sufficiently accurate for present purposes. It is restricted in that residents of the United States are forbidden to hold gold except for industrial purposes and then only under specific authority of the Secretary of the Treasury. It is also restricted by reason of the existing doubt concerning the power of the Secretary of the Treasury to alter the price of gold paid by the government. The standard is an international one because the government has permitted the export of gold with few or no limitations, except during the war period, and it is a bullion standard because international dealings are in bullion rather than coin.

This system may be appraised against the several criteria stated

<sup>1</sup> Quoted by Spahr, Walter E., in *It's Your Money*, New York: Economists' National Committee on Monetary Policy, 1946, p. 29.

at the beginning of the previous chapter. It will be shown in succeeding chapters that the largest part of all transactions today are consummated by the use of bank checks rather than by the delivery of currency. Since this is so, it can be seen that the gold held by the United States does not closely regulate the supply of money in the country although it does set extreme limits to that supply, as will be shown later. The expansion and contraction of bank deposits are the most powerful influences in the determination of the supply of money. The inflow and outflow of gold, as well as its production by domestic mines, increase and decrease the amount of money in the country, but these changes are not the only nor even the most important forces operating to establish the money supply. This was equally as true before the United States went off the gold standard in 1933 as it has been since.

The second criterion stated in Chapter 2 was that the standard should provide a means of measuring international values and settling payments between countries with different kinds of monetary systems. Under the present system, gold serves that purpose but in ways that are markedly different from the way the standard formerly operated. Today international trade is dominated by a great variety of governmental controls, both by the United States and other countries. Prices are subject to extensive regulation, and goods moving from one country to another are often rationed or sold through state monopolies. Gold cannot therefore influence the price levels of various countries as it once was supposed to do. It must be concluded therefore that while gold now is used to make payments internationally, it does not serve to establish values for goods in terms of itself as a standard might be expected to do.

The third criterion, that a money system provide sufficient latitude for management of the money system in the interests of national welfare, is probably met by the current American standard. The expiration of the President's powers to change the price of gold may have limited the powers of control if it is found that other legislation has abrogated the power of the Secretary of the Treasury to buy and sell gold at other prices than that now prevailing. Due to the fact that bank deposits constitute that largest proportion of the money supply, this limitation is comparatively unimportant, however, except in the event that a change is desired in the relation of the

dollar to other currencies. To a high degree, control today is exercised in the realm of bank credit and it is in that component of the total money supply that evaluation of monetary management must be made. In the field of international exchange, the International Monetary Fund has been established with powers to exercise limited management over the establishment of international exchange ratios.

In summary, the present monetary system of the United States only partially meets the requirements usually expected of a money system. If one is opposed to the idea of managed money, it is also deficient in affording some measure of control over the money supply that is deliberate rather than automatic.

Some frequent questions relating to gold and the American monetary system.<sup>2</sup> The above discussion of the monetary system has not considered certain questions which students of money and banking frequently raise concerning the large stock of gold now stored in the United States. Some of the questions are: (1) what is the significance of this large stock; (2) is there any possibility of a decline in the price of gold and if so, who will suffer the loss in value; (3) why doesn't the government use the gold to retire a part of the public debt and thereby reduce the amount of interest it must pay; (4) what does the gold cost the United States? Let us consider these questions in reverse order.

Gold imported into the United States is usually paid for with commodities sold to other countries. In so far as these commodities include irreplaceable natural resources, they represent a long-term social cost to the nation. Moreover, if they are produced in a period of full employment, capital and labor must be devoted to their production which would have been used for the satisfaction of domestic needs, and in this case the gold is acquired by the nation at a social cost. However, much of the gold now held by the United States came into the country in payment for goods produced during periods of less than full employment and was therefore virtually costless, for it is probable that the capital and labor devoted to the production

<sup>2</sup> The material in this section has been based upon the symposium on "Gold and the Monetary System" presented at the 53rd annual meeting of the American Economic Association by Professors Hans Neisser, Fritz Machlup, W. A. Brown, Jr., and Mr. C. O. Hardy. See *The American Economic Review*, Papers and Proceedings, Vol. XXX, No. 5, pp. 1-52 (February, 1941).

of goods for exchange for the gold would otherwise have been idle if this demand had not existed. Only in so far as the exports included natural resources can the gold be considered to have been acquired at a cost to the economy under conditions of unemployment.

The third question must be considered naive but it is sometimes heard even from people with a broad knowledge of matters other than economics. The gold held by the United States government in the vaults at Fort Knox is held as a reserve for money outstanding and in circulation in the country. It is an asset with obligations outstanding against it and cannot therefore be used in this manner. Even though the government chose to redeem the gold certificates outstanding against this gold, nothing would be accomplished, since the gold certificates are held by the Federal Reserve System, and the gold would then be held instead of the certificates.

As to the possibility of a decline in the value of gold, a definition of the kind of value one has in mind must be considered before an answer can be undertaken. The value of gold may decline in terms of dollars, foreign money, or commodities. As to the first of these, the answer lies entirely within the authority of the United States Congress to determine. Since the relation of gold to the dollar is fixed by Congressional action, there is nothing in the supply and demand situation in the market which can change that relationship. Of course, if Congress decided to reduce the price of gold in terms of dollars, it has the power to do so, but it is difficult to conceive of circumstances that would induce such action. Assuming that such a change was made, for example from \$35 per ounce to \$30, the government would be required to write down the stated value of its gold holdings by about \$3 billion. This loss could be absorbed in a number of ways without effect upon the government's financial position. One of these would be to change the reserve requirement against gold certificates from 100 per cent gold to 86 per cent gold. Then the gold stock, even though its nominal value was reduced, would still support the same volume of gold certificates as before.

The value of gold may decline in terms of foreign money whenever any country chooses to lower the price which it is willing to pay for gold in its own currency. Such an action would have the effect of making it more difficult for other countries to obtain its money and would therefore adversely affect its trade with these



countries. Such a decline in value is thus a remote possibility since most countries have sought ways of raising the volume of their exports in the effort to support employment. It is true that certain nations, following World War II, undertook actions comparable in their effects to a lowering of the price of gold, but this was for the temporary purpose of protecting the home supply of goods during a period of great shortages.

It is not possible for the government to fix the value of gold in terms of commodities, for changes in the level of commodity prices occur for many reasons and, if a constant price for gold is maintained, changes in the purchasing power of money will lead to parallel changes in the value of gold. It was once suggested by the late Professor Irving Fisher that the government change its price for gold in such a way as to give gold a constant purchasing power with the thought that this policy would aid in the stabilization of wholesale prices. The government could in this way fix the value of gold, but few would now argue that the action would have the desired effect upon prices.

We may now consider the significance of the large stock of gold and the present policy of increasing that stock by selling goods in exchange for newly mined gold as well as the gold contained in monetary reserves of countries all over the world. There seems little reason to believe that this tremendous hoard will have any future importance for the welfare of the country and therefore the same purpose could be served by exchanging goods for goods or other valuable considerations such as favorable trade arrangements, the relinquishment of policies which we consider undesirable, or perhaps by taking in return strategic materials that are scarce in the American economy. To some extent, this is exactly what we are doing when we grant loans and gifts for financing world recovery. In so far as we have any interest in the maintenance of a gold standard throughout the world, it is probably better that the gold continue to be held by its present owners, for when we have absorbed most of the monetary reserves of these countries, they will be forced to use other types of monetary systems.

There is one way in which the gold reserve may prove valuable and that is by being used to purchase goods and services from abroad. American policy has been generally opposed to any program

that would foster imports, which may make this a doubtful prospect. Moreover, there are few countries now possessing such wealth as to permit them to accumulate gold when by doing so they would be sacrificing their present standard of living.

It must be concluded therefore that the additions to the present gold stock of the United States represent, in current conditions of full employment, a sacrifice of the domestic standard of living in favor of the standard of living of those countries which are sending us the gold. In accepting the gold, we are as surely financing their recovery as we are when we make loans and gifts, and the value of the gold is probably about the same as the value of the loan contract or the gratitude for the gifts would be. This is not to say that the gold imports do not have substantial effects upon the economy, rather it is to affirm that after these effects have been felt, the gold hoard remaining has little importance under present world conditions.

Summary. This review of the present monetary system of the United States must perforce leave one with a feeling of confusion. The world is in a stage of transition in which many anachronistic institutions continue to exist along with more recent developments in economic institutions. While this is always true to some degree, it is most strikingly characteristic of the present. American monetary organization today reflects the same conflict of *laissez-faire* institutions alongside monetary management as is true of other parts of the economic system. It seems to be the belief of most students that monetary management will characterize our organization for the future even though that management may find that its criteria and its instruments of control must be constantly changed to meet the changing economic problem.

### STUDY QUESTIONS

1. Does the use of silver in the American monetary system indicate that the country is on a bimetallic standard or silver standard? Explain.
2. Suppose the United States Government raised the price of gold to \$40 an ounce. Show the steps by which the Treasury's cash position might be improved by this act.
3. Why can't the government use a part of its large stock of gold to retire a part of the national debt? If it were possible to do so, would the

effect be any different than if the government printed new paper money and placed it in circulation?

4. What factors can you name that influence the amount of money in circulation? Are these factors also important in determining the kind of money in circulation?
5. In so far as you are able to judge at this stage, would you say that the supply of money in the United States would rise and fall with the business cycle? Explain.
6. "Under present legislation, the volume of silver money in circulation will continue to increase without respect to the economy's need for a medium of exchange." Comment on this statement.
7. If the United States should repeal existing legislation governing the purchase of silver and its use in the monetary system, how would the prices of the stocks of silver-mining companies be affected? How would trade with such silver-mining countries as Mexico be involved?

*PART TWO*

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**FUNCTIONS AND STRUCTURE OF  
COMMERCIAL BANKING**



# CHAPTER

## 4

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### THE NATURE AND FUNCTIONS OF COMMERCIAL BANKING

**Introduction.** Analyses of many topics relating to money presume a knowledge of the nature and functions of banking, since the behavior of money is conditioned by the banking process. The amount and velocity of money, for example, are closely related to banking operations. In fact, the close relationship in our economy of monetary phenomena and banking phenomena makes money and banking one area of economics rather than two separate and distinct fields of study. It is desirable, therefore, to consider the nature and functions of banking before proceeding with other studies, wherein it is assumed that the banking process determines to a significant degree the quantity and the velocity of the money supply of the nation.

Another important observation is that commercial banks are financial institutions intended to perform services for the communities in which they are located in return for dividends on the capital stocks to which their owners have subscribed. Whatever economic functions banks may perform, it should be observed that capital flows into the banking business for no other dominant reason than to secure a profit from the performance of those functions. Hence, understanding the process by which banks make profits provides the most realistic approach to an understanding of the nature of the banking process.

In the following discussions of the nature and functions of banking, we are concerned with banks as *service-performing*, *profit-making*, and *money-creating* institutions. Only a preview, however,

of the banking process and not a detailed explanation of banking operations is attempted in this chapter.

## PROCEDURES OF ORGANIZATION

**Application for a charter.** Shortly before the middle of the nineteenth century legislative bodies began to formulate codes under which the *right* to organize banks was substituted for the *privilege*, directly dispensed by the legislatures, to organize and operate banks. Under these codes, any group of persons able to satisfy the requirements was given a charter. This procedure became known as "free banking," and resulted in the establishment of thousands of commercial banks in the United States. In 1921, 30,812 banks were operating in the United States. Thereafter, mergers and failures reduced this number to less than half the former total. At the end of 1946, 14,586 were in existence.

Free banking has not meant freedom from all restraint in the matter of organizing and operating a banking business. Banking codes have imposed quite rigid specifications for the granting of a charter. Since there are forty-eight state banking systems in the United States, as well as one national banking system, we cannot describe the organizational procedures under all the systems. Nor is it necessary to describe any one of them in great detail. It is sufficient to point out some of the factors considered by state and federal authorities when an application for a charter is received. Among these the following are the most important:

1. The general character and experience of the organizers and of the proposed officers of the new bank
2. The adequacy of existing banking facilities and the need of additional banking capital
3. The outlook for the growth and development of the town or city in which the bank is to be located
4. The methods and banking practices of the existing bank or banks, the interest rates that they charge customers, and the character of the service which, as quasi-public institutions, they are rendering to the community
5. The reasonable prospects for success of the new bank if efficiently managed.

**Types of organization.** The term "unit banking" is often used to describe the banking system in the United States, by which is meant that each banking office is individually chartered, capitalized, and managed. A striking contrast is furnished by the extensive branch banking systems of England and Canada, where local banking offices are branches of a central office. In England, there are fifteen banks, and of these five do the great bulk of the banking business. In Canada, four of a total of ten banks dominate the field of commercial banking.

In the United States, not all banking offices are independent of centralized control. *Branch*, *group*, and *chain* banking exist alongside our unit banking system. Although exact and complete definitions of these three types of affiliation of local banking offices with others is difficult, the nature of each can briefly be described. In a branch banking system there is a single charter, one group of stockholders, and one capital structure under which all local offices are operated. Each local office is supervised by a manager who is appointed by the board of directors of the bank. A group banking system is one wherein a holding company, through stock ownership, exercises control over the boards of directors of the local units of the group. Each local banking office in a chain, as in group banking, is controlled by "outsiders," but a holding company is not the control group. Rather, a group of individuals who control one bank, by reason of stock ownership in it, also control other banks through their holdings of a sufficient amount of stock in each of the units of the chain.

Numerous state and federal regulations control branch, group, and chain banking. In general, these regulations have tended to discourage group and chain banking which have declined in importance during the past two decades, while legislation concerning branch banking has been liberalized, with the result that, relative to the other two types, branch banking has gained in importance. On December 31, 1945, there were 1,122 banks in the United States with one or more branch offices, the total number of such offices being 3,947. The chief liberalization of banking laws concerning branch banking came with the enactment of the Banking Act of 1933 and the Banking Act of 1935. In these acts, Congress permitted national banks to establish branches in each state to the degree that the state



banking laws permitted state banks to do so, provided capital stock requirements for national banks were met. At the present time, national banks operate almost half the total number of branches of all banks.

The arguments for branch banking usually center around the following claims: (1) that many business firms operate over a wider area than formerly and that banks need to adapt themselves to the changing structure of business, (2) that it offers greater diversification of assets, (3) that it makes possible greater geographical mobility of funds, (4) that it provides better management, and (5) that it is more economical.

The chief argument against branch banking is its monopolistic nature. This claim is made by the Federal Deposit Insurance Corporation, a staunch defender of the unit banking system, which made the following statement in one of its annual reports:

The business of lending money is well suited to private initiative and is best performed under competitive conditions. Monopoly in banking is a threat to American traditions, both because it limits the opportunities to engage in the business of banking, and because it provides an opportunity for favoritism in the extension of credit which may foster monopolies in other industries. The growing tendencies toward monopoly in the banking business are serious, and prompt action should be taken to curb them. Monopolistic practices in the banking system have contributed to the growing demand for credit agencies operated by the Federal Government. The Corporation believes that the maintenance of genuine competition among banks is a much better solution to this problem than the further extension of governmental lending activities.

A partial monopoly which develops when one bank obtains a disproportionate percentage of the total banking resources of an area may have a serious effect on the economic life of the district. Another monopolistic tendency which has aroused customer discontent is the agreement among banks, in some areas, to fix charges and limit services. Bankers can do much to improve this situation by making active efforts to fit their services to the needs of the public rather than by relying upon restrictive agreements for profits.

Partial monopolies over large areas may develop both by means of branch banking and through the holding company device. The Corporation recommends that such branch banking as is permitted by the laws of the respective States be strictly regulated so that no bank will control a disproportionate percentage of the total banking resources or offices of an area. Holding companies not only tend to become monopolistic, but in-

crease the problem of supervision. The ease with which assets may be transferred from one affiliated corporate unit to another and the possibility of the manipulation of the accounts of these enterprises make adequate examination of affiliated banks and the appraisal of their condition and capital position extremely difficult. The Corporation believes that such legislation is distinctly preferable to the enactment of further regulatory laws in the bank holding company field.<sup>1</sup>

Although branch banking has gained a strong foothold in certain areas, it should be pointed out (1) that only about 8 per cent of the commercial banks are operating branches, and (2) that almost half (about 45 per cent) of all branches are located in head-office cities. These figures, however, do not preclude the possibility of the same holding company exercising control over noncommercial banking concerns and other businesses. These considerations have led the Congress to give serious thought to the advisability of forbidding holding companies that hold bank stocks also to hold stock in other business firms. Such legislation has received strong support from various quarters, including the Independent Bankers Association and some holding companies that have restricted their holdings to bank stocks.

## THE BANKING PROCESS

**Capital accounts.** Many countries have no regulations concerning the amount of subscribed and paid-in capital a bank must have before it may begin business. In the United States this practice has not been followed; instead, specific regulations concerning capital requirements have been adopted. The purpose of these requirements is to discourage establishment of banking institutions by incompetent persons, or persons with inadequate financial resources. A further purpose of these minimum requirements is to prevent organization of banks with such a small amount of capital that the total amount of business they can perform renders a proper diversification of the assets of those banks difficult or impossible. Hence, capital requirements place a limitation upon the establishment of banking institutions and furnish some degree of protection to bank customers.

<sup>1</sup> *Annual Report of the Federal Deposit Insurance Corporation, 1944*, pp. 10-11.

Assuming the need for additional banking facilities in a community and assuming that capital requirements can be met, the organizers of a bank may purchase, for example, five thousand shares of capital stock at \$100 par value per share. If they wish, or are required, to begin banking operations with a contributed surplus, they may do so by following the simple expedient of paying an amount in excess of the par value of each share of stock, the par value being then carried in the capital stock account and the amount in excess of the par value in a surplus account. This hypothetical banking institution is now ready to begin operations with \$500,000 of capital stock, and, let us say, \$100,000 in a surplus account. Later, as earnings accrue from these operations, an undivided profits account is set up, which is also one of the capital accounts of the bank. These three liabilities of the bank to its owners, namely, the capital stock, the surplus, and the undivided profits, constitute the bulk of its capital accounts.

Prior to the accumulation of assets in excess of its capital stock, the balance sheet of a bank might be as follows:

<i>Assets</i>		<i>Liabilities</i>	
Cash	\$600,000	Capital stock	\$500,000
		Surplus	100,000
	<u>\$600,000</u>		<u>\$600,000</u>

**Deposits.** A bank accumulates earning assets in excess of its capital stock as it builds up its deposit liabilities. In other words, it increases both its assets and its liabilities by receiving cash, promissory notes, etc., from its customers and giving them claims against itself (deposit credit) in exchange. The growth of a bank is, therefore, reflected in a simultaneous rise in the volume of its deposit liabilities and its earning assets.

The point most essential to an understanding of the nature of a bank deposit is that it is a liability of a bank; it is a bookkeeping entry signifying a contractual obligation on the part of the bank to honor a depositor's demand for payment. In the case of a demand deposit, the bank agrees to redeem this claim by paying cash on demand to the extent of the depositor's credit balance. In the case of a time deposit, the depositor's claim is limited by certain conditions set forth in an instrument such as a time certificate of deposit or a passbook. For example, the depositor might be required to give

notice of a specified number of days prior to withdrawing his deposit. In return, the bank may obligate itself to pay a specified rate of interest on the depositor's credit balance.

In addition to the fact that a bank deposit is a liability of a bank, two other characteristics of a bank deposit are worthy of consideration. The first of these is that the depositor does not receive a claim to the identical things he brought to a bank. He receives instead a right to call for an equivalent amount of money. A bank deposit is, therefore, similar to a *fungible* good in that the items which a depositor brings to a bank lose their identity in the whole of the bank's deposits and assets. The second of these considerations is that the depositor does not determine the use which a bank makes of the money, promissory notes, etc., which are turned over to it by the depositor. Instead, the bank may shift its assets from one form to another in any manner that is permitted by the banking laws under which it operates. An understanding of these basic characteristics of a bank deposit is assumed in all discussions relating to this subject in later chapters.

Does a bank invest its deposits? This question serves to test one's understanding of the nature of bank deposits. In seeking an answer to this question, let us suppose that a customer of a bank brings to it some currency and checks on other banks. The bank gives the customer deposit credit in exchange for the assets, cash and checks on other banks. The deposit credit is a debt of the bank to the customer, and since it is a debt it cannot be invested. A bank can, however, invest that which it has received in exchange for its debt. When a bank receives more cash than it needs in its operations, it can invest the surplus cash. Likewise, it can invest surplus reserves, which were gained by reason of a persistently favorable balance of checks drawn on other banks over checks drawn on it. The process of exchanging surplus cash and surplus reserves for other assets is not a process of exchanging liabilities (debt) for assets; it is rather a process of exchanging one form of assets for another, such as cash and excess reserves for securities and promissory notes. In this process of exchanging one asset for another, a bank endeavors to gain earning assets at the expense of nonearning assets. When, on the other hand, it meets with a persistent drain of cash (cash disbursements in excess of cash receipts) and a persistent drain from

its reserve' accounts (checks drawn against it in excess of checks on other banks deposited with it), it must sell or pledge earning assets to procure nonearning assets, namely, cash and reserve balances.

When the question—do banks invest their deposits?—is approached from the point of view of the whole banking system, as well as from the point of view of the individual bank, it can clearly be seen that banks do not invest their deposits. The point of view of the whole banking system, as distinguished from that of the individual bank, rules out of consideration any gain in the deposits of one bank at the expense of other banks. Although an individual bank can gain deposits at the expense of other banks, the entire banking system cannot do so. An understanding of the nature of the banking process requires explanations of the processes by which the banking system gains or loses deposits, which explanations are not provided by the false proposition that banks invest their deposits. In other words, this proposition fails to recognize deposits as debts of banks and also begs the question—how do banks as a whole gain or lose deposits? The factors which decrease and increase bank deposits are explained in Chapter 8.

*Deposits to capital accounts ratio.* It has been said that banking operations cannot be profitable unless the earning assets are several times as large as the capital stock. In other words, the secret of profitable banking lies in the maintenance of reasonably large amounts of income-yielding earning assets relative to capital stock.

If deposits are exceedingly high in relation to capital accounts, the owners assume too small a proportion of the risk of the banking enterprise, and the depositors too large a proportion of that risk. If the deposits are too low, the bank is not in a position to maintain a ratio between earning assets and capital stock favorable to earning a reasonable return per share of stock. The risk factor is too great in the one case and the bank is not likely to be successful in the other.

*Earning assets.* The earning assets of a bank consist chiefly of loans and discounts and investments. Loans and discounts are evidenced largely by promissory notes held by the bank against its customers, although some open-market loans, such as commercial paper and bankers' acceptances, may be included in the same category. A discount differs from a loan in that the interest is deducted in advance.

To illustrate: in the case of a discount, a customer's account would be credited with \$985 on a note for \$1,000 maturing in ninety days, assuming a discount rate of 6 per cent. In the case of a loan, the customer receives \$1,000 at the time of entering into the transaction and is obliged to pay \$1,015 at maturity, again assuming an interest rate of 6 per cent. The net rate of interest is slightly higher in the case of a discount, since the borrower paid \$15 for the use of \$985 for three months, while in the case of a loan, he had the use of \$1,000 at the same price.

Until recently, the problems of banks relating to their bond portfolios were accorded less attention than other problems, such as those relating to bank note issues and loans to customers. At one stage in the development of banking institutions, it was generally assumed that local banks could hardly exist without the note-issue privilege, although some contemporaries thought they ought never to have had it. With the development of deposit banking, the issuance of bank notes became a minor aspect of banking operations and was finally abandoned altogether as a function of the commercial banks in the United States. As the emphasis on the note-issue function declined, the emphasis on loan policies of banks increased. At the same time, the development of security markets furnished the facilities for a larger volume of long-term financing. Although the growing importance of investments among the earning assets of banks is not of recent origin, it is only since 1933 that the investment holdings of commercial banks have exceeded the volume of their loans and discounts. Hence, commercial banks are today forced to rely for income upon their investment account in much greater measure than formerly.

The loan and investment policy of a bank is a vital one. Upon it depends the bank's success or failure, and the margin between success and failure is usually narrow. A bank's expenses consume a large portion of its total income. In fact, a bank is doing quite well if it has a net income of \$1 on every \$4 of gross income. Thus a loss of \$1,000 on one loan offsets the net income from \$100,000 on others, provided the total income from that amount is \$4,000 and the expenses of handling those loans are \$3,000. Similarly, the small losses on several investments may offset the entire net income from its investment account.

For the purpose of handling loans and investments satisfactorily, large banks maintain credit departments to study applications for loans and special departments to study and recommend suitable investments for bank funds. Although small banks may not have these special departments, their officers can often handle loans as skillfully as the officers of large banks. They can, if they wish to do so, obtain expert advice concerning investments by subscribing to the services of an investment advisory firm. Three fundamental factors that a bank must take into account in making loans are: wide diversification, good and sufficient security, and careful analyses of the financial position of the borrowers.

*Earning assets to capital accounts ratio.* The amount of a bank's earning assets largely determines the amount of its earnings on capital accounts. Other things being equal, a bank with a 10 to 1 ratio between earning assets and capital accounts will earn twice as much on its capital as one with a ratio of 5 to 1 between these items. Other factors than the size of this ratio, however, have much to do with bank earnings. Among these, the extent of losses and recoveries on loans and investment and the rate of earnings on loans and investments are the most important. The bank with the greater amount of earning assets may suffer such great losses on its loans and investments that its net income might be less than that of a bank with a lesser quantity of earning assets. Further, the first bank might hold lower-yielding assets than the second bank. Nevertheless, it is true that a bank with a ratio of 10 to 1 between earning assets and total capital accounts will earn 10 per cent on its capital accounts if it has a 1 per cent net return on earning assets, while a bank with the same percentage of net income on earning assets and a 5 to 1 ratio will earn only half as much on capital accounts.

*Reserves.* Banks are required by law to maintain reserve accounts with reserve depositories equal to a certain percentage of their demand and time deposits. Besides such legal reserve, every bank finds it necessary to keep some cash on hand, which is not counted as a part of its legal reserve. The member banks of the Federal Reserve System, for example, are not permitted to count cash in vault as a part of their legal reserves. In addition to legal reserves and cash in vault, a bank may have a deposit with another bank which is also a nonearning asset. Many banks find it convenient, or necessary, to

keep a deposit with a bank in New York City or some other financial center. These nonearning assets make it impossible for a bank to maintain as high a ratio between earning assets and capital accounts as the ratio between deposits and capital accounts. The need for sufficient income to meet operating expenses and to pay reasonable dividends, as well as the necessity for holding some nonearning assets, make it imperative that earning assets be several times as great as capital accounts.

A simplified balance sheet. We have previously presented a balance sheet of a bank prior to its accumulation of assets in excess of its capital stock. Now, following the discussion of deposits, loans, investments, reserves, and other assets, a hypothetical and simplified balance sheet of a going bank may be presented as follows:

<i>Assets</i>		<i>Liabilities</i>	
Loans & discounts	\$3,000,000	Capital stock	\$ 500,000
Investments	4,000,000	Surplus	400,000
Reserves	3,000,000	Undivided profits	100,000
Cash in vault	400,000	Deposits	
Bank building, etc.	250,000	Time	3,000,000
Other assets	350,000	Demand	7,000,000
	<u>\$11,000,000</u>		<u>\$11,000,000</u>

This bank, obviously, has a deposits to capital accounts ratio of 10:1 and a ratio of earning assets to capital accounts of 7:1. Assuming reserve requirements to be 20 per cent of demand deposits and 6 per cent of time deposits, it possesses a reserve balance that is greater than is required. By reason of its excess reserves and its holdings of assets that can be sold, pledged, or rediscounted, it is in a position to expand its loans and to add to its security holdings and thereby increase the ratio of earning assets to capital accounts. It has cash in vault equal to about 4 per cent of its total deposits and bank building and equipment with a book value equal to 25 per cent of capital accounts. Loans to customers are three-sevenths of the earning assets and investments are four-sevenths of earning assets. Other items that appear on a typical bank balance sheet have little relevance to this discussion of the nature of the banking process.

The accumulation of assets. What is the explanation for the ability of our hypothetical bank to accumulate \$3,000,000 of assets in the form of loans and discounts and \$4,000,000 of investments (securities)? It is found in one of the most significant and interesting phe-



nomena in our modern economic society, namely, bank credit expansion. One individual cannot lend to another more money than he possesses, but a bank operating in a banking system can make loans, including investments which are loans evidenced by bond contracts, in excess of the money put into the banking business by its owners. When one bank makes a loan it credits the deposit account of the borrower by the amount of the proceeds of the loan. Although the borrower does not borrow for the purpose of leaving the money with the lending bank—he usually draws checks against the newly created deposit credit—other banks are also extending deposit credits to their customers some of whom are drawing checks in favor of depositors of the first bank. The banking system therefore does not lose deposits when a lender from one bank draws checks against the deposit credit created by his loan. The net result of the lending activities of all banks is that the deposits and the earning assets of the banking system are increased.

Having accumulated \$3,000,000 of loans and \$4,000,000 of securities, let us assume that our hypothetical bank, along with all other banks in the banking system, has the opportunity to buy some part of a great total of new securities that are put on the market. It avails itself of this opportunity and buys, let us say, \$5,000,000 of these securities. In the same period other banks also buy these securities in amounts somewhat proportionate to the size of each bank. The issuers of these securities acquire deposit credits somewhere in the banking system in the amount of the proceeds of the sales. When these deposit credits are spent for the purposes for which the securities were floated, other people receive checks which are deposited in banks somewhere in the banking system. Assuming that the people of the community of our hypothetical bank receive \$5,000,000 of these checks, the bank's deposits rise by \$5,000,000.

The balance sheet of our bank then appears as follows:

<i>Assets</i>		<i>Liabilities</i>	
Loans and discounts	\$ 3,000,000	Capital stock	\$ 500,000
Investments	9,000,000	Surplus	400,000
Reserves	3,000,000	Undivided profits	100,000
Cash in vault	400,000	Deposits	
Bank building, etc.	250,000	Time	3,000,000
Other assets	350,000	Demand	12,000,000
	<u>\$16,000,000</u>		<u>\$16,000,000</u>

Let us next suppose that our hypothetical bank, along with other banks in the banking system, has the opportunity, over a period of time, to make new loans at a rate faster than old loans are maturing. It lends, let us say, \$2,000,000 to its customers, while other banks are also extending credit in amounts that reflect about the same rate of expansion everywhere in the banking system. Assuming that the depositors of our hypothetical bank receive checks drawn on other banks in amounts equal to the checks they have drawn on their accounts, the bank's deposits rise by the amount of its loan expansion, that is \$2,000,000. The result is revealed in its balance sheet, which appears now as follows:

<i>Assets</i>		<i>Liabilities</i>	
Loans and discounts	\$ 5,000,000	Capital stock	\$ 500,000
Investments	9,000,000	Surplus	400,000
Reserves	3,000,000	Undivided profits	100,000
Cash in vault	400,000	Deposits	
Bank building, etc.	250,000	Time	3,000,000
Other assets	350,000	Demand	14,000,000
	<u>\$18,000,000</u>		<u>\$18,000,000</u>

Attention is properly called to several unrealistic elements in this presentation of the financial position of a bank which has grown from an \$11 million institution to one with \$18 million of assets and liabilities. Among these unrealistic elements the following are the most important: (1) it is unlikely that time deposits would remain constant while the amount of demand deposits increased so greatly, (2) undivided profits would doubtless have increased with each transaction that proved profitable to the bank, and (3) the reserve account would likely be somewhat lower or higher, rather than exactly the same amount as before. We have chosen to hold these and other items on the balance sheet at the same figures in order to focus attention on the chief changing factors, namely, loans, investments, and deposit liabilities.

In the foregoing description of the process by which banks accumulate assets and deposit liabilities, other causal factors of increase in bank assets and liabilities are neglected. Among these other factors, one or more of the following might be important in any given period of time: (1) net imports of gold which increase bank reserves and deposits; (2) sales to the government of silver in exchange for

checks drawn on the Treasury and deposited in banks; and (3) the return flow of money, previously issued, from circulation.

The banking process in a nutshell. In our banking system, we have two sets of debts: (1) the debts owed to banks—these are the earning assets of banks, and (2) the debts owed by banks—these are the deposit liabilities of banks. Ignoring other bank balance sheet items, these two sets of debts rise and fall together. In the processes of bank credit expansion and bank credit contraction a part of the money supply of the economy is created or destroyed. In a period of credit expansion, both debts owed to banks and debts owed by banks rise. In a period of credit contraction, there occurs a cancellation of both of these sets of debt.

### THE ECONOMIC FUNCTIONS OF COMMERCIAL BANKS

Attention has been called to the fact that people have been motivated to organize commercial banks primarily by the prospect for profits. Like other business enterprises, banks have earned profits by providing services which command a price in excess of the costs of supplying them. Two tests of the market place have been met by existing banks, namely, ability to supply demanded services and ability to gain enough profits to survive in competition with alternative employments for money capital. Presumably, failure to meet these pragmatic tests would have resulted in the death of banks as economic institutions. To be sure, some banks have failed, either because of inefficiencies in management or because they have become submarginal in periods when the need for banking services has declined, and all banks have been forced to adjust the scope and nature of their operations to changing conditions. The net result of trials and errors is that in the United States an extensive system of commercial banks has evolved, not by government planning nor by the administration of a plan in other hands, but rather by the mechanisms of the profit motive under free private enterprise.

We shall not here trace in detail the economic functions of banks in different periods of the history of banking. At one time, the main function of banks was that of safekeeping money and other valuable commodities. Later, the main function of banks was to issue bank

notes that served as circulating currency. Today, commercial banking operations center around deposits, loans, and investments. The functions of the individual bank in relation to its customers and the economic functions of the commercial banking system in society are to be found in these operations.

In presenting an explanation of the economic functions of banks two approaches are employed in succeeding paragraphs. The one approach contrasts an economic society devoid of the services rendered by banks with one in which banks exist to perform their main functions centering around deposits, loans, and investments. The other approach is more positive; it considers the impact of variations in the quantity of bank deposits, loans, and investments on the economy.

Banks provide an alternative to cash hoarding. If there were no banks of deposit, individuals and business firms would find it necessary to hold money in their possession from those periods when income exceeds outgo for use in periods when outgo exceeds income. This procedure would involve great risk and inconvenience. Furthermore, payments would in the absence of the use of the familiar bank check have to be made by delivery of bullion, coins, or currency, often to distant places. Deposit accounts in banks provide an alternative to cash hoarding by individuals and business firms. By building up deposit credits and making withdrawals therefrom the necessity for carrying large amounts of cash is obviated. A saving to individuals and to society is thereby effected. This saving is made obvious when one considers the tremendous amount of coins and currency that would be needed to consummate transactions in the absence of deposit accounts. Figures of the dollar volume of debits to total deposit accounts, except interbank accounts, are published each month in the *Federal Reserve Bulletin*, covering 334 reporting centers. In 1946, bank debits in these centers totaled \$1,050,021,000,000. This vast magnitude of checks debited to individual deposit accounts in only 334 cities helps one to realize the extent to which our economy is served by a system wherein slips of paper signifying debits and credits to deposit accounts has replaced the exchanging of coins and currency, except in those transactions, mostly small ones, where the use of coins and currency is more convenient. It is difficult to visualize how our modern economy with its high degree

of specialization could have evolved to its present state of efficiency in the absence of a system of checking accounts.

The handling of deposits by banks, including the clearing of checks by which money claims are shifted from one person to another and from one community to another, is one of the most efficient of modern institutions. These claims meet in the clearing houses where they largely offset each other, that is, the claims presented by one bank on behalf of its depositors are largely offset by the claims of other banks against the customers of the first bank. Likewise, the claims of one regional central bank (the Federal Reserve bank for that region) are presented in the clearing houses where they are matched against the claims of other regional banks against the first of these. In the international sphere of economic activity, the same phenomenon can be observed. Only the difference in the two aggregates for each bank need be settled, and even that difference in each daily settlement can be met by credits and debits to a fund previously established for that purpose. The credits and debits in the settlement fund over a period of time generally leave the account of each bank in the fund at about the same level as at the beginning of the period. A persistent rise or decline in the account of any bank indicates the need for an adjustment by a rise or decline in the volume of that bank's credit extensions.

In other words, the banking system provides the facilities for and renders an account of the repetitive procedures which characterize the relationship between the public and the banks. The economic function thus performed can aptly be described as "social book-keeping."

An explanation of the impact of changes in the volume of bank deposits on the economy requires consideration of the extent to which they contribute to the total money supply of the nation. Since an explanation of the factors that determine the supply of money is an important part of the theory of the value of money, which subject is reserved for a later part of this book, we cannot adequately treat these phenomena here. It can be pointed out, however, that a slowing of the rate of increase in bank deposits, a decline in the volume of deposits, or a decrease in the turnover of deposits, whatever may be the causes of these changes and those operating in the direction of an increase in the volume and velocity of deposits, pro-

foundly affect the economy as a whole. A further observation that will be treated in some detail later is that the ownership of bank deposits changes, and that these changes affect the purchasing power of different segments of the population.

**Selective extension of bank credit.** Banks do more than provide an alternative to cash hoarding; they also provide organized credit facilities whereby funds are made available to those borrowers who can use them in the most productive manner. The alternative to cash hoarding is represented in the deposit liabilities of banks; the outcome of the selective extension of bank credit is expressed in the qualities and quantities of the different forms of assets which banks accumulate.

In the absence of banks and other lending agencies, the individuals and business firms in possession of loanable funds must rely on their own judgment in extending loans to others. Bankers, as a result of experience in the business of credit extension, are doubtless in a better position to arrive at wise decisions concerning the credit-worthiness of the prospective borrower than is the individual lender. Then, too, bankers have better facilities for arriving at these judgments. For these reasons, banks are said to be able to divert funds from less to more productive channels.

The self-interest of bankers is ordinarily relied on to make the selective extension of credit as productive as possible to the economic system. Bankers usually find that the loans and investments which are most productive to the borrower are, in the long run, the safest and most profitable advances which they can make.

The fact that individual bankers grant certain loans and reject other loan applications has great significance, since these actions determine the areas of the economy that shall receive funds for development and other purposes. Many large and thriving business firms of today can trace the beginnings of their success to the time when they needed and obtained bank loans for working capital purposes. These firms at the time had no credit rating, no favorable balance sheet ratios; they had little to recommend them as being credit-worthy except a "faith in America" which was shared by the banker who extended credit to them.

The bank function which has been described as the selective extension of bank credit has also been called the function of giving

negotiability to the credit of customers. Still another name for it is the monetization of personal credit. In all these descriptive names, a central idea is discoverable, namely, the credit of the lending bank's customer can be transformed into bank credit. The credit of the customer is not lacking; rather, it is not widely recognized. A retailer, for example, who has an ample line of credit with his local bank might nevertheless have no credit standing with a manufacturer from whom he wishes to buy goods. The bank in this case accepts the retailer's promise to pay in exchange for its own promise to pay which is more widely acceptable. Hence, the retailer's credit is given greater negotiability by the bank's interceding role in the transaction. Since the bank's credit is widely acceptable and the customer's buying power is increased, the term "monetization of credit" aptly describes these procedures.

Although the contribution of individual banks to the development of their communities is worthy of recognition, it must also be said that bank credit has contributed to instability in the economy as a whole. This is true because periods of bank credit expansion have been followed by periods of bank credit contraction. Whatever may be the causal factors in this phenomenon, the individual banker, acting alone, can do little to avoid expansion when the whole system is expanding and to avert contraction in a period of general contraction. In the absence of compensatory factors, the economy, as a consequence of credit expansion and contraction, is not given a money supply that promotes *steady* growth. Instead, bank credit expansion injects new money into the economy mostly when other factors are favorable to expansion, and bank credit contraction withdraws money from the economy when other factors are favorable to general contraction. In other words, the impact of bank credit on the economic system is found in its force as an accentuating factor in the business cycle.

Banks select investment securities. It has been only in the last quarter century that commercial banks have become a significant force in the securities market, especially in the government securities market. In fact, the basic theory of commercial banking hardly admits that banks should be security holders at all. Today, commercial loans of banks make up a smaller proportion of the total earning assets of banks than do securities.

To the extent that banks make selections from the offerings of nongovernment bonds, they carry out the function we have described as the selective utilization of funds. This process rewards efficiency in the management of firms that would float bonds in the open market and penalizes the inefficient. The former are rewarded in the form of a broader, lower-cost market, while the latter are penalized in the form of higher interest costs and an uncertain market for their obligations.

When banks buy government securities they relinquish to the government the determination of the channels into which funds shall flow. The legislative branch of government controls this determination, and the creditor (security holder) has a very small voice in the matter. In the case of bank loans, the creditor is in a better position to pick and choose the purposes for which he will extend credit.

It must also be observed that the processes of bank credit expansion and contraction apply to the security portfolios of banks as well as to their loans. When banks buy bonds the economic system is supplied with funds, as is the case when banks make loans. The only essential difference is that bonds represent long-term funds for fixed capital purposes while commercial loans represent funds for short-term, working capital purposes. This being the case, the observations previously made concerning the impact of bank loans on the economy have equal relevance here.

## TRADITIONAL COMMERCIAL BANKING THEORY

The traditional theory of commercial banking requires banks to restrict their advances to short-term loans for commercial, productive purposes. It also requires that bank notes be supported by commercial paper, and it presupposes that being so supported the quantity of bank notes, as well as the quantity of bank credit, will be determined by the "needs of trade." In other words, the traditional theory of commercial banking contends that bank notes and loans will expand in proportion to an expansion in trade, and will contract when the volume of trade contracts and, further, that banks while adhering to the theory will always be in a liquid position. There is no place in this concept of commercial banking for the



existence of a close relationship between the deposits of banks and their holdings of securities. In recent years, a close relationship between bank investment holdings and bank deposits has developed. It cannot rightly be said, however, that the traditional theory has been entirely displaced by newer concepts in the minds of present-day bankers; rather it has been, in large part, forsaken by reason of circumstances beyond the control of each individual banker. In succeeding paragraphs we shall state briefly the historical foundations of the commercial loan theory of banking, sometimes called the "real-bills" theory, and state some reasons for its decline as the *modus operandi* of present-day banking.

Early views on bank credit and money. Prior to the publication of Adam Smith's *Wealth of Nations*, in 1776, numerous references can be found to the proposition that the liabilities of banks can serve the purpose of money. For example, Pierre de Boisguillebert, a member of the nobility of France who sought to achieve economic and political reforms to alleviate poverty and other inequalities, wrote in one of his several treatises, published in 1707:

It is very certain that it [money] is not a good in itself and that the quantity of it does nothing for the opulence of a country in general, provided there is enough of it to sustain the prices of the goods necessary to life.

It may be said that the richer a country is, the more it is in a condition to dispense with specie, since there are more people who can use representatives of it, i.e., more pieces of paper called bills of exchange.<sup>2</sup>

Mints has found that Richard Cantillon, a successor to Boisguillebert in the same school of thought, saw the relationship between the amount of bank credit and the cash held by a bank and that a banker, if he found it necessary to maintain a ratio of 10 per cent of cash to deposits, could lend 90 per cent of any deposit of cash he might receive.<sup>3</sup>

Although he gave credit to Richard Cantillon, John Law, Sir Ralph Maddison, David Hume, and others for discerning the fact that banks expanded the total of the circulating medium, Mints says that Adam Smith

<sup>2</sup> Quoted by Scott, W. A., in *The Development of Economics*, New York: Appleton-Century, 1933, pp. 34-35.

<sup>3</sup> See Mints, Lloyd W., in *A History of Banking Theory*, Chicago: The University of Chicago Press, 1945, p. 16.

... is the first of a long succession of writers, extending to the present day, who have integrated into a systematic exposition certain ideas in regard to control of the quantity of bank credit, the kinds of assets banks should hold, the provision of elasticity in the currency by means of bank credit, and, finally, the provision for liquidity. He was, in fact, the first thorough-going exponent of the real-bills doctrine. Smith recognized, as did most of the writers who preceded him, that bank notes serve the purpose of money, that they are issued in the process of making loans, that bankers operate on the basis of fractional reserves, and that these reserves are necessary for the purpose of maintaining liquidity.<sup>4</sup>

In the literature on monetary and banking theory from the publication of the *Wealth of Nations* to the present time, three ideas are stressed by the proponents of the doctrine that banks should restrict credit extension to short-term loans for commercial purposes. The first of these is that if bank advances are so restricted there can be no overexpansion of bank credit because the expansion of the money supply resulting from bank loans would be in proportion to the increases in trade. The second idea, closely related to the limiting effect of a restricted bank credit, is that the currency will have the desired degree of elasticity in that it is issued in response to the needs of trade and is returnable to the banks as those needs contract. The third idea, stated or implied, is that the liquidity of bank assets is assured when banks limit their asset accumulation to short-term commercial loans.

These ideas were incorporated in the Federal Reserve Act of 1913 in the United States and seemed to furnish, although not always clearly so, the philosophy by which earlier Federal Reserve policies were most often determined. These provisions and policies are explained and discussed in later chapters.

Criticisms of the commercial loan theory. The central point in the commercial loan theory of bank credit, or "real-bills theory," is that no control over the money supply is necessary. Implicit in the theory is the assumption that no monetary policy either in booms and depressions is needed, because the money supply, qualitatively determined, will regulate itself. In this central theme, both its defenders and detractors find grounds for their defenses and criticisms.

The defenses of the theory are based on the absence of a need for

<sup>4</sup> Mints, Lloyd W., *A History of Banking Theory*, copyright 1945 by The University of Chicago Press. By special permission of the publishers, pp. 25-26.

control over the supply of money by any strong monetary authority. That "booms" and "busts" have occurred is explained mostly in terms of people having sinned against the precepts of sound credit, and that repentance for such sins, and obedience to those precepts, will set things right again.

The critics of the commercial loan theory of bank credit have centered their attention on the fact that booms and depressions have been recurrent phenomena in our society for a long time, and that monetary policies directed toward control over the supply of money have been needed and will continue to be needed. The critics contend that overexpansion of credit and currency is possible and probable, in theory and practice, under the operations of the commercial loan theory of bank credit. That overexpansion cannot occur under this theory is belied by the fact that it has taken place, say these critics. Numerous causes of expansion and contraction exist in the economic system and these forces need to be counteracted, to the greatest possible extent by monetary policies.

An appeal to the record of commercial banking in the United States, especially in recent years, is helpful in analyzing the merits of the controversy over the commercial loan theory of credit.

The decline of commercial banking. Numerous attempts have been made in the history of banking in the United States, by means of legislation, to protect the commercial aspects of commercial banking. This was especially true prior to World War I. The National Bank Act of 1863, and subsequent amendments to it, placed numerous restrictions upon loans used for other than commercial purposes. National banks under this act were, for example, restricted in their power to grant real estate loans. The Federal Reserve Act of 1913 liberalized somewhat the legitimate activities of the member banks in this respect, but yet forbade the rediscounting of any except short-term paper arising from productive commercial transactions. In other words, the Federal Reserve System was originally designed to support the commercial functions of the member banks.

World War I profoundly affected banking practices and trends. The necessities of financing the war forced into the foreground the fiscal functions of the Federal Reserve banks, that is, they became largely the agents of the Treasury in the flotation of government bonds. These bonds, in turn, served as security for the loans. In

many instances banks later were forced to foreclose on these loans, and many banks having overextended credit were forced to sell bonds in the open market. The result was a severe decline in the prices of government securities with consequent great losses to both the banks and individual investors. Although commercial loans also reached a high level during the period of wartime inflation, the trend away from commercial banking in the United States was established and, it may also be said, the public in general became "security conscious."

In the period immediately following World War I, an inflation set in which was characterized, in part, by a very considerable speculation in inventories in the industrial sections of the country and by land and real estate booms in both urban and rural areas. The price level continued to advance throughout 1919, inducing manufacturers to build up inventories of raw material and wholesalers and retailers to build up inventories of finished goods to high levels. Anticipation that prices would go still higher encouraged this movement. The aspect of this situation which is pertinent to the present topic is that many bank loans which appeared to be commercial loans were in fact speculative loans, that is, loans to support commodity speculation. Real estate loans also were greatly increased in this period of postwar inflation, especially by state banks, which led national banks to clamor for liberalization of restrictions upon their ability to grant similar loans. Hence, the year 1919 was characterized by a tendency away from strict adherence to commercial banking. During that year financing by the Treasury continued with the flotation, through the aid of the banks, of a huge postwar bond issue, called Victory Bonds.

A short period of severe deflation set in during 1920 as the wholesale price level began to decline from its high peak of 272 in May with 100 representing the 1913 level of wholesale prices to 148 in June, 1921. By 1923, it was apparent that the deflation had run its course and that a new period of expansion was developing. Instead of being founded upon government financing and commodity speculation, this new development was based on flotation of corporate securities and loans on securities. Most corporations, especially the larger ones, found it unnecessary to borrow from banks for commercial purposes since they could utilize their large wartime

profits or obtain new funds from the capital markets to finance current operations and plant expansion. The bond market enjoyed unusual activity in the earlier years of this new industrial expansion, and numerous huge consolidations of business enterprises were effected by the financial geniuses of the time. Financiers preferred bonded indebtedness to bank loans because much of the new financing was of a long-term character. Commercial banks, following the trends in general business, invested heavily in corporate bonds.

Later, especially in 1928 and 1929, the capital markets favored equities and a tremendous stock market boom developed. The preference of business management for financing by means of common stocks rather than bonds is readily understood, for stocks entail no fixed obligation and no maturity problem. Following current business practice, the commercial banks turned to security loans which were granted in large volume for the purpose of purchasing or carrying securities. By the end of 1929, loans to brokers and others on securities had become the largest class of bank loans. They exceeded both the so-called commercial loans of banks and the total of their holdings of government and other bonds. In fact, banks freely disposed of bonds in order to increase their loans on securities.

The vicious character of this situation was proved by subsequent events. These loans were liquid only so long as there was no widespread desire to liquidate them, or only so long as they could be shifted to other lenders. From the point of view of the banking system, shiftability of bank assets is not harmful in itself so long as outlets exist for the disposal of those assets with little or no loss. When the stock market crash came in October, 1929, the banks could not liquidate these security loans in any great amount without making the situation much more serious. After a temporary upturn in the stock market, the decline set in again and the banks, in self-protection, could adopt no other policy than that of forcing their customers to sell their collateral as a means of paying off their indebtedness.

At the beginning of the deflationary movement between 1929 and 1933, banks returned to their previous policy of buying bonds, but the banking system had been so weakened that depositors lost faith

in the safety of their banks and withdrew currency to such an extent that all types of bank assets suffered a tremendous decline. In this period about 10,000 banks failed or were merged with stronger institutions.

The record of events prior to and during World War II demonstrates clearly that huge projects financed by the government cannot be financed with methods consistent with the commercial loan theory of bank credit. These projects, such as government works, are not commercial in nature. Neither is war, the largest of all government projects, a commercial project. The result of huge government expenditures is that money is created irrespective of the needs of trade. A further result is that fiscal policies take the center of the stage and therefore relegate over-all monetary policy, as well as commercial loan policy, to a subservient position. Commercial loans and other money market phenomena were dwarfed in the period June 30, 1940, to the end of 1945 by the Government's expenditures of \$380 billion, only 40 per cent of which was derived from taxes. Of the amount borrowed, about \$95 billion was raised by selling government securities to the commercial banking system. The relationship of government financing to bank operation, including Federal Reserve banks, will be discussed in considerable detail in later chapters.

Some reasons for the decline of commercial banking. The reasons for the trend which has been cited are not to be found in a change of policy, carefully planned by commercial bankers in general. On the contrary, the shortage of commercial loans can rightly be attributed to changes in business policy and organization and to changes in government financing to which the commercial bankers were forced to adapt their policies.

The growth of business firms to large-scale units and the development of huge capitalistic combinations have resulted in a situation in which the commercial banker no longer occupies the same strategic position he once occupied. Most large business firms today seldom find it necessary to apply for credit at commercial banks when they need to buy raw materials. These large business units ordinarily possess the necessary working capital to meet their need for funds for most short-term purposes. It is also true that many business firms today finance fixed-capital improvements by employ-

ing internal funds, that is, they reinvest earnings and find it unnecessary to borrow money for this purpose. Consequently, many business firms, especially the larger ones, perform for themselves some of the functions that might be performed by commercial banks, that is, they draw upon their own cash balances to meet current needs and give to the banks a considerable amount of business only during the periods of unusual need for funds.

It is also interesting to observe the part which the development of speedier transportation and increased standardization in production have played in the decline of the commercial phase of banking. When transportation was slow, business firms found it necessary to store greater quantities of raw materials and finished-goods inventory, in proportion to their total sales, than they store now when transportation is speedier and hand-to-mouth buying is a satisfactory business policy. Increased standardization increases the speed of production and also reduces the need for holding large inventories of both raw materials and finished goods. In each instance the amount of bank credit needed becomes smaller in proportion to the total amount of sales.

Another reason for the decline in the commercial phase of banking is to be found in the increased activities of government agencies, both federal and local. These far-reaching activities have been financed by taxation and by the flotation of government securities and also by the flotation of government-guaranteed securities wherein no assurance is given that the proceeds will be used for commercial purposes. To be sure, it cannot be said with any degree of certainty that commercial loans of banks in the absence of the widespread operations of government and government agencies would be correspondingly greater.

In the postwar period of 1945-47, commercial, industrial, and agricultural loans of banks increased significantly. Whether this development signifies a resumption of risk lending by banks and the performance of their traditional function of financing private enterprise is uncertain. Perhaps it is a result of the necessities of reconversion and the adjustment of our economy to peacetime pursuits. Whether or not the trend continues, it is doubtful that commercial banks will choose to relinquish their holdings of noncommercial assets such as government bonds and consumption loans.

## STUDY QUESTIONS

1. How can the fact be explained that in the United States there are almost 15,000 commercial banks, most of them small institutions, rather than a few large institutions with numerous branches, as is true in some other countries?
2. "Since we have in the United States a large number of small independent banks, it cannot accurately be said that we have a *banking system*." Do you agree?
3. Why did not the Congress of the United States retain or assert the right to charter all banks? Why did state legislatures allow "free banking," and thereby relinquish the right to charter banks by special legislative acts?
4. Have considerations other than the prospect for profits motivated persons to establish new banking institutions? Explain.
5. Differentiate *branch*, *group*, and *chain* banking.
6. Why have branch, group, and chain banking organizations been formed in the United States? If you contend that they have been formed for the purpose of promoting the public interest, support your contention. If other considerations have led to their formation, explain them.
7. "At times, competitive inequalities between state and national banks have been corrected by the liberalization of federal laws." Illustrate and comment.
8. "It is possible for the capital position of the banks of a country to be sound even though the banking codes do not establish minimum capital requirements." Do you agree?
9. How might a new commercial bank begin its operations with a *surplus*? Explain and illustrate.
10. "There is little reason for establishing a commercial bank if it cannot hope to acquire earning assets several times as great as its capital accounts." Explain.
11. "Banks lend or invest their deposits." Is this an accurate statement? If not, reword it to convey more accurately the intended meaning.
12. "The building up of bank deposits and earning assets is a reciprocal process." Explain.
13. Why cannot a bank maintain a favorable ratio of earning assets to capital accounts in the absence of a favorable ratio of deposits to capital accounts?
14. Explain how a bank that makes 1 per cent net on its earning assets might make profits available for dividends of 10 per cent on its capital accounts, which may be equivalent to 20 per cent on its capital stock.
15. Explain why a loss of \$1,000 on one loan might offset the net income from \$100,000 of other loans.



16. Why might one bank with a ratio of 5 to 1 between earning assets and capital accounts be more profitable than a bank with a 10 to 1 ratio between these items?
17. Comment on the nature of a member bank's legal reserve.
18. Why must a bank possess an adequate legal reserve balance if it wishes to expand its loans or its investment holdings?
19. Why cannot an individual bank greatly expand its loans and investments unless bank credit expansion is taking place in the entire banking system?
20. "By providing an alternative to cash hoarding, banks have increased the efficiency of our economic system." Explain.
21. "When banks make loans, the bankers determine the channels into which funds shall flow. When, however, banks buy government securities bankers do not make this determination." Discuss.
22. How can banks give greater negotiability to the credit of their customers or monetize personal credit?
23. Explain the commercial loan theory of bank credit (real-bills theory) and the logic of the position of its proponents. What three ideas are dominant in this position?
24. On what grounds has the commercial loan theory of bank credit been criticized?
25. What is the present position of the commercial loan theory of bank credit? Is this position attributable to discontent on the part of bankers with it?
26. "A commercial loan can be speculative in character." Do you agree? Illustrate.
27. "Fiscal operations of the federal government are seldom consistent with the commercial loan theory of bank credit." Do you agree? Explain.
28. What are the most important reasons for the decline of commercial banking?

# CHAPTER

## 5

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### BACKGROUND OF THE MONETARY AND BANKING SYSTEM OF THE UNITED STATES

**Introduction.** Throughout the history of American experiences with monetary and banking institutions the need for management over the expansion and contraction of the money supply in the interests of the general welfare has been sorely felt. At times the nation has suffered from great stringency in the supply of money, while at other times it has suffered from a plethora of money. Until toward the close of the last century, statesmen and scholars placed major emphasis in matters relating to money on the quantity and quality of the supply of coins and currency. More recently, attention has been focused on the supply of bank credit, that is, on the expansion and contraction of bank deposits. Accordingly, in the earlier period, methods of regulating the supply of coins and currency were deemed to be uppermost in importance, while more recently the formulation and implementation of policies designed to manage the quantity of bank credit have been the chief concern of those persons who by monetary means seek to achieve greater economic stability.

The management of the money supply of the economy presumes the existence of institutional arrangements under which controls might be exercised. From 1790, when Alexander Hamilton submitted to Congress a report in which he described the benefits to

be derived from the existence of a national bank, to 1913 when the Federal Reserve Act was enacted establishing a central banking system, great struggles took place over the degree of centralized control over the money supply of the nation that should be permitted. Today, arguments are heard over proposals that would give the Federal Reserve System greater control over bank credit than it now possesses.

In order better to appreciate the structure and the functions of the Federal Reserve System, a brief recital of the main items in the history of banking in the United States is undertaken. This brief historical treatment is focused on changes in the organization for the issuance of money and on the struggles over the extent to which centralized control over the money supply might be exercised.

## EARLY MONETARY AND BANKING EXPERIENCES

**The colonial period.** In the colonial period of American history there was a great dearth of precious metals, and no national mint existed for the conversion of the small available supply of precious metals into coins of uniform weight and fineness that might circulate in all the colonies. A variety of coins minted in other countries, mostly Spanish dollars or pieces of eight, circulated and were accepted in payment of public and private obligations. The lack of an adequate supply of coins led most of the colonies to issue "bills of credit" to meet expenditures of the colonial governments that could not be met by their extremely inadequate tax revenues. These bills of credit were in most cases made receivable in payment of taxes and were issued on the promise that they would be redeemed within a short period of time. In addition to bills of credit, some colonial governments issued "loan bills," which, unlike bills of credit, were not issued on the government's promise to pay. Rather, they represented promises to pay on the part of the persons to whom they were issued. The method of putting them into circulation was usually that of extending loans on the security of mortgages on property, in the expectation that the mortgagor would periodically select some of the loans bills and present them in payment of a part of the loan obligation. The retirement of the loans bills and the retirement of the indebtedness that gave rise to the bills would then

concurrently take place. Private "loan banks" also issued loan bills in a similar manner with similar provisions for their retirement.

Since not many of these credit instruments were retired, cancelled, or redeemed, as was expected, they rapidly depreciated in value, many of them falling to ten per cent of their face value. Francis A. Walker characterized the banks that operated in the colonial period as "batches of paper money." However, one venture of the type that has been described may be adjudged to have been successful—the loan banks established by Pennsylvania in 1723 and 1739. These were well managed and resisted the temptation to overissue loan bills. Had all the colonial governments and loan banks exercised similar restraint concerning the quantity of bills issued, it is conceivable that the need for an adequate, yet not excessive, medium of exchange might have been met.

**The period of the Revolution.** During the period of the Revolution, the Continental Congress on August 23, 1775 authorized the issuance of \$2 million of paper money that was declared to be redeemable in Spanish dollars, gold or silver. Later, numerous additional issues brought the total amount up to approximately \$242 million in 1780. During this same period, the states had issued notes in excess of \$209 million. Despite attempts on the part of the Continental Congress to cancel some of their notes issues by offers to exchange them for long-term, interest-bearing certificates, the Continental currency, as well as the notes issued by the states, depreciated greatly in value, the degree of depreciation being as low as one cent on the dollar.

**Provisions of the Constitution concerning money.** The experiences of the colonies and of the Continental Congress concerning money doubtless made the delegates to the Constitutional Convention keenly aware of the necessity for regulation over the issuance of money. This awareness led them to delegate to Congress the power to coin money and to regulate the value thereof (Article 1, Sec. 8) and to forbid the states to coin money and to emit bills of credit (Article 1, Sec. 10). Congress exercised this power for the first time in the Coinage Act of April 2, 1792, which established a bimetallic standard with a ratio of 15 to 1 between silver and gold. The gold dollar was defined as 24.75 grains of gold and the silver dollar as 371.25 grains of silver. Although this legislation provided that only

coins with a high intrinsic value could be minted, it did not satisfy the need for an adequate supply of media of exchange. Only a small amount of silver and gold was coined, the volume of the latter being particularly small because gold, compared with silver, was more valuable in other countries than in the United States. In fact, coins were so scarce that the Congress provided, until 1834, that certain foreign coins should be legal tender in the United States.

**The first Bank of the United States.** The first Bank of the United States, established in 1791, rendered a public service in supplying the economy with circulating notes in a period when gold and silver bullion and coins were scarce. This bank was organized in close accordance with recommendations made by Alexander Hamilton in a report to Congress in 1790. In this report, Hamilton described the benefits which would be derived from a national bank. These benefits would accrue to the government by reason of the bank's fiscal operations, to the merchants by reason of its lending activities, and to the public because it would supply a sound medium of exchange through the issuance of bank notes.

The charter of the first Bank of the United States provided for a capitalization of \$10 million, one-fifth of which was to be subscribed by the federal government and four-fifths by private individuals. Subscriptions were to be paid for in semiannual instalments consisting of one-fourth specie and three-fourths in 6 per cent government bonds. The par value of each share of stock was \$400. Management was vested in a board of directors consisting of twenty-five citizens of the United States. By the turn of the century, the government had experienced difficulty in paying back to the bank the original loan of \$2 million which had enabled it to subscribe to the capital, and proceeded thereupon to sell its shares. By 1802 the last of the government-owned shares had been disposed of (at a profit of \$671,860 in addition to \$1,101,720 in dividends received), so that thereafter the institution was privately owned and operated.

In addition to the initial loan of \$2 million to meet the government's subscription to the stock of the bank, other advances were made by the bank to the government which were very helpful to it in its formative years. The bank was also helpful to the Treasury in rendering fiscal services such as the transfer of funds from places where revenues were collected to places where disbursements were

made. In rendering these fiscal services the bank performed one of the functions of a central bank.

The bank was authorized to receive deposits and to make loans both to the federal government and to state governments. The rate of interest on loans was not to exceed 6 per cent. The bank was permitted to sell its holdings of government securities but was prohibited from trading in them. In these activities—receiving deposits and making loans—the first Bank of the United States performed functions more consistent with those of a commercial bank than with those of a central bank. The Federal Reserve Act of 1913, it will later be noted, forbade the Federal Reserve banks to receive deposits from and to make loans to individuals. (Later, they were permitted to make direct loans under certain conditions.)

The bank was authorized to issue notes, not in excess of \$10 million, which were not legal tender but which were, nevertheless, receivable by the federal government as long as the notes were redeemable in specie at par value. As was observed earlier, these notes helped considerably in supplying a much-needed medium of exchange at a time when coins were scarce. In addition to supplying the economy with a quantity of good currency, the bank discouraged overissue of currency by the state banks. Wherever it received on deposit the notes of state banks, it sent them back to the issuing banks for redemption in specie. This practice forced the state banks to remain on a specie-paying basis.

Opposition to a bank chartered by the federal government was heard prior to the passage of the law that established the first Bank of the United States, and continued throughout the period of its existence. Since it was chartered to operate for a period of 20 years, the opponents of the bank sought to block the renewal of its charter. In this effort they were successful; the bill that would have renewed the charter was lost by the deciding vote of Vice President Clinton after a tie vote of the Senate. In the House of Representatives the vote was 65 against the bill and 64 in favor of it.

Although numerous arguments against the rechartering of the bank were advanced, including the charge that foreign influences prevailed in the bank since approximately 18,000 of the 25,000 shares were held by foreign investors, the dominant reason for the unwillingness of Congress to extend the bank's charter doubtless was the

widespread feeling that the bank represented too much centralized control over the money supply of the nation.

The second Bank of the United States. Shortly after the political fight over the renewal of the charter of the first Bank of the United States had ended, the United States became involved in a second war with England in which the need of a central bank that might perform fiscal services for the government was clearly demonstrated. Unless the government is willing and able to impose taxes that will yield sufficient revenue to finance a war, it becomes necessary either to float bonds or to issue currency. In the one case, a central bank might render a service to the government by its purchases of government securities or by supporting the market for government securities. In the absence of a central bank or other institution that might perform these services during the second war with England, the financing of the war proved to be highly inefficient and costly. In the other case—the issuance of currency to finance a war—a central bank might do much to prevent highly inflationary overissues of currency and the overexpansion of bank credit that might occur at the same time.

Freedom from the restraining influence that was exercised by the first Bank of the United States led the state banks to indulge in over-issue of notes. In addition to the great expansion in the note issues of the older banks, new banks were formed primarily for the purpose of issuing notes. The number of state banks increased from 88 to 246 in the period 1811 to 1816. In the same period, the situation was aggravated by the exportation of \$7 million to pay off the foreign stockholders of the first Bank of the United States. The inevitable result was suspension of specie payments, which took place for all banks except the conservative banks of New England, in 1814. In that year, the government announced a decision to accept state bank notes in payment of public dues. It has been estimated that the government suffered a loss of \$5 million on depreciated or worthless state bank notes in the period 1814-1817.

After a lengthy debate, beginning in the autumn of 1814 when Secretary of the Treasury Dallas submitted a report to Congress recommending formation of a new national bank, President Madison signed the bill that created the second Bank of the United States on April 10, 1816.

Provisions of the charter of the second Bank of the United States. The bank was authorized to issue \$35 million of capital stock, one-fifth of which was to be subscribed by the federal government. Individual subscribers were required to pay subscriptions in three instalments consisting of one-fourth specie and three-fourths government securities. Five of the twenty-five directors were to be appointed by the President of the United States. The bank was required to act as fiscal agent of the federal government, and deposits of government funds were to be made with the bank unless the Secretary of the Treasury should otherwise direct, in which case a report was to be made to Congress giving the reason for such departure from the customary procedure. No loan was to be made to the federal government in excess of \$500,000 or to a state beyond \$50,000. In return for the charter, the bank was to pay \$1,500,000 to the United States, and the government was not permitted to establish any other bank under federal charter, except in the District of Columbia.

*The record of the bank.* During the first year of its existence, the bank was badly managed. Charter provisions were violated, and local banks were oppressed through its numerous branches. Only one-third of the capital had been paid in specie as required and, instead of government bonds, the remainder of the capital was subscribed in the personal IOU's of the stockholders. All types of illegal speculations were carried on; even the bank's officers engaged in speculation in its stock. Note circulation continued on an unsound basis; specie still was at a premium. The branches in the south and west extended loans very freely, and as the notes issued on such loans were redeemable in those sections of the country, the capital of the bank was diverted to regions in which there was a noticeable lack of commercial stability. The moment the directors saw the trend, they ordered curtailments in credit accommodations. As the country was still struggling to recover from the effects of the War of 1812, the deflationary effect of the bank's action brought about further difficulties culminating in the failure of the Baltimore branch. Congress threatened to revoke the charter. Fortunately, a business man by the name of Langdon Cheves became its representative and succeeded in reducing the note issue from \$8,339,000, in 1818, to \$4,361,000, by 1823.

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This rapid deflation of notes led to another change of management when the rather conservative Cheves was succeeded by the more progressive Nicholas Biddle, who sought to increase note circulation without danger. To accomplish this, he encouraged the use of domestic bills of exchange and bank drafts. Without this action, the note issue could not have been greatly and quickly expanded, since, under the charter, only the president and the cashier of the parent bank could sign the notes of branches. Congress refused to permit branch officials to sign notes, so that Biddle was forced to accomplish his goal by means of bank drafts for even sums of \$5, \$10, or \$20, drawn by a branch upon the parent bank, payable to an officer of the bank and upon endorsement payable to bearer. Under Biddle's management, the national bank attained its highest success. Branch activities were closely supervised. State banks were forced to adhere to specie redemption, and hence to a limitation of their notes, because such notes might be returned to the issuing bank for redemption. The bank's services as fiscal agent for the government were efficiently rendered. For ten years, from 1823 to 1833, the bank was an unquestionable success. Any question concerning the legality of the bank had finally been decided in its favor by Chief Justice Marshall in the famous case of *McCulloch versus Maryland* in 1819.

*The controversy over rechartering the bank.* Antagonism against the second Bank of the United States, despite the decision of the Supreme Court in the *McCulloch versus Maryland* case, had been mounting for some time. Marshall's decision ("the power to tax involves the power to destroy") forbidding states to tax the bank's branches had aroused considerable ill feeling. The bank's control over the inflated note issues of state banks had made lasting enemies. In 1830, Marshall declared (*Craig vs. The State of Missouri*) that certificates issued by state loan officers and receivable for tax and other payments were unconstitutional. This decision excited widespread resentment especially in the south. State governments and state banking interests, owing in part to these decisions of the Supreme Court, opposed the rechartering of the bank. President Jackson, who had expressed doubt concerning the constitutionality of the bank in his first message to Congress in 1829, vetoed one bill for rechartering the bank which Congress was unable to override.

Finally, in 1833, President Jackson ordered his Secretary of the Treasury to withdraw the government's deposits from the bank, which funds were deposited in certain state banks, the so-called "pet banks." The bank thereupon was forced to follow a policy of contraction and to wind up its affairs. The charter expired on March 3, 1836, but the bank continued operations under a charter from the State of Pennsylvania. It eventually failed as a result of the Panic of 1837

### COINAGE ACTS OF 1834, 1837, 1853

**Coinage Act of 1834.** While the struggle over the rechartering of the second Bank of the United States was taking place, Congress was also faced with a problem concerning coinage of gold and silver. It has been observed that under the mint ratio of 15 to 1, fixed by the Coinage Act of 1792, the coinage of gold practically ceased since silver was overvalued at the mint, that is, a given quantity of gold could command in the market more than 15 times that weight of silver in exchange. For this reason, very little gold was offered for coinage at the mints. In 1833, a bill was introduced in Congress that would change the mint ratio from 15 to 1 to 15.6 to 1. Congress did not pass this bill. Instead, it adopted a mint ratio of 16.002 to 1 in the Coinage Act of 1834 which fixed the gold content of the dollar at 23.2 grains.

**Coinage Act of 1837.** By the adoption of the Coinage Act of 1837, a slight change was made in the gold content of the dollar, whereby the dollar was defined as 23.22 grains of gold. Since the silver content of the silver dollar was left undisturbed at 371.25 grains, the mint ratio was 15.988 to 1 under this act, which is usually referred to as the 16 to 1 ratio.

Under both the Coinage Act of 1834 and the Coinage Act of 1837, gold was overvalued at the mint. This was true so long as the market ratio was less than 16 to 1. When, for example, the market ratio was 15.73 to 1, a person could buy \$15,730 of gold in the market and have it coined into \$16,000 at the mint. At the same time, a silver dollar (371.25 grains) would buy 23.95 grains of gold, whereas only 23.22 grains of gold were required to make one gold dollar. Silver, therefore, was more valuable as bullion than as coin and very little of it

was offered to the mint for coinage. Many silver dollars were melted down and gold became the actual standard of value.

**Coinage Act of 1853.** As a result of gold discoveries in California, Australia, and Russia, the market ratio of gold to silver had fallen to 15.3 to 1. This widening differential between the market and mint ratios accelerated the withdrawal of silver from circulation. The Coinage Act of 1853 was designed to keep the fractional silver coins in circulation in periods when the silver dollars might be expected to disappear from circulation. To this end, the silver content of small silver coins was reduced by 6.91 per cent. In order to prevent persons from taking advantage of profit to be gained from presenting silver to the mint for coinage into small silver coins, the principle of free coinage of fractional silver was revoked. Silver coins were to be struck by the mint for the Treasury in amounts determined by the needs of trade. The legal-tender power of subsidiary silver coins was limited to \$5. These coins were redeemable in gold when presented in certain quantities. These provisions prevented the overissue of subsidiary coins when silver was cheap in the market and their disappearance if silver should rise slightly (something less than 6.91 per cent) above \$1.29 per ounce.

The act of 1853 placed the United States virtually on a gold-coin standard. Nevertheless, the legal standard was bimetallic since the free coinage of the silver dollar was permitted until 1873.

### STATE BANKING FROM 1836 TO 1863

**The increase in state banks.** For a period of 27 years, from 1836 to 1863, state banking had a free field for expansion without any interference on the part of the federal government or competition with federally chartered banking institutions. The number of state banks rose from 506 in 1834 to 1,466 in 1863. That some increase in the number of banks should take place was to be expected, since the growth of population and the development of the economy warranted an extension of banking facilities. Although the student of banking might justifiably assert that there occurred an overexpansion of new banking offices, it is the malpractices of banking institutions in this period, especially those of the newly organized banks, that have attracted his closest attention. These malpractices centered

around three main considerations concerning banks organized in this period: (1) their capital structure, (2) their note issues, and (3) supervision over banking practices.

**The capital of the banks.** Many of the state-chartered banks began business with only 5 per cent of their capital stock paid in, the remainder being in the form of promissory notes of the stockholders. When due, these notes were usually renewed, so that the practice of paying in capital by borrowing at the bank was firmly entrenched. Banks about to open would often borrow cash from neighboring institutions in order to make an impression upon prospective customers on the opening day; this money would be returned after the opening.

**The note issue.** Generally speaking, there was little or no limitation or regulation of note issues. The specification that a bank's notes could not exceed an amount equal to three times its capital stock was meaningless in view of the aforementioned practices. Usually no provision was made for redemption nor was there any penalty for nonredemption. Various means were employed to discourage and effectively to prevent presentation of the issuing bank's notes. A bank in Georgia conditioned redemption upon an oath rendered in the bank before the local justice of the peace and in the presence of five directors and the cashier to the effect that the person presenting the notes for redemption was the owner of the notes and not acting in behalf of someone else. Riots in Ohio in connection with the failure of the Miami Exporting Company caused the state legislature to pass resolutions attempting to force specie payments of banks, or their liquidation.

The inevitable result of such a situation was the circulation of all types of counterfeits. "Counterfeit Detectors" were regularly published to caution the public. One of these lists, published in 1839, contains the names of 54 banks that had already failed on several occasions, 20 fictitious banks whose notes circulated, 43 other banks for whose notes there was no acceptance, 254 banks whose notes had been counterfeited, or whose altered notes were supposed to be in circulation, in denominations ranging from \$1 to \$500.

In view of the lack of a central redemption agency, a bank's notes would circulate in other sections of the country at a discount. But since they were accepted at a smaller discount by the public than

by the respective local banks, they tended to remain in circulation. As a result, the circulating medium consisted of a great variety of note issues. Some of these were good; others were bad because presentation for redemption, which would have acted as a check on overissue, was entirely absent. In connection with the unsatisfactory note issue, another evil arose in the form of unsound lending policies. In order to force the notes into circulation, long-term loans were granted without any consideration whatsoever for the uses to which the borrowed funds were put. A good many of the loans were unsecured and indefinitely renewable so that notes were not presented to the banks in repayment of the original indebtedness. This eliminated one means of retirement of notes.

A number of other practices rendered conditions more bewildering. For example, so-called post notes were issued, payable at some specified future date. The future payment date was usually printed in fine letters to deceive the general public as to their true status. When laws were enacted to stop the circulation of post notes, loans were made under the condition that the notes paid out as a result of the loan were to be placed in circulation at a certain distance from the bank's domicile or retained for a certain length of time by the borrower before being put into circulation. Another factor causing confusion was that some notes were employed as collateral for loans at other banks. Furthermore, many banks were known to have paid over their counters the notes of other banks at par, although they would receive them only at a discount.

**State supervision of banking.** The abuses of banking described above could not have occurred had charters and supplementary legislation contained regulatory provisions. In some states, for example Michigan, the work of the official bank commissioners in checking the amount of specie on hand was rendered valueless because boxes and bags of specie were transferred from institution to institution, performing a continuous service as reserve.

In many instances, state governments themselves subscribed to the stock of banking institutions because they felt that the government had a right to share in the profits, and that through stock-ownership the state could exercise pressure toward sounder management. With the possible exception of the Bank of Indiana, this

theory proved to be fallacious. Even where legislation was enacted to define the bank's sphere of action or security for note issues, inadequate supervision or examination rendered such legislation rather ineffective.

Attempts to remedy malpractices. Attempts to improve banking practices by supervisory authorities and by groups of banks were not altogether absent. One of these attempts was that of the Suffolk Bank in cooperation with other banks in Boston. These banks found that it was difficult to keep their notes, for which redemption in specie was provided, in circulation alongside notes of out-of-town banks. (Many notes that were redeemable were driven out of circulation by the bad ones in accordance with Gresham's Law.) The Suffolk Bank, and others, thereupon began systematically to collect the country banks' notes and to send them to the issuing banks for redemption in specie. Objections to this practice led to an agreement whereby the Suffolk Bank would receive the notes of the country banks at their par value, provided each of the country banks would maintain a deposit with the Suffolk Bank. In New York, a "safety fund system" was established whereby banks were required to make annual payments to a common fund, the resources of which were used to make payments to the holders of notes and deposit liabilities of banks that had failed. In Michigan, and in other states, laws were enacted establishing a system of bond-secured note issues with redemption facilities provided by collateral deposited in the custody of the state government.

The long history of state bank note issues and the record of numerous attempts to cope with the problems they created came to an end when Congress placed a tax of 10 per cent on all such note issues, effective on July 1, 1866.

An appraisal of the period 1836 to 1863 must state that little or no progress was made in the direction of meeting the need of the economy for an adequate, yet not excessive, supply of a satisfactory medium of exchange. If it is the duty of federal government to meet this need, it had, in this period, clearly defaulted in its duty. It did not supply the economy with an adequate quantity of coins and it did not regulate the supply of bank notes in accordance with the need for that type of money. Nor was there developed in this period

any self-regulating mechanism whereby the economy might have been supplied with approximately the right amount of a satisfactory medium of exchange.

## THE INDEPENDENT TREASURY SYSTEM

The expiration of the charter of the second Bank of the United States and the subsequent increase in the number of badly financed state banks caused such widespread losses that Congress was forced in 1846 to establish the Independent Treasury System for the protection of the funds of the government.<sup>1</sup> Under this system, the federal government acted as its own bank, that is, it collected revenues in the Treasury in Washington and in subtreasuries located in various cities, and made disbursements from these offices. No fiscal agent or depositories were employed by the government from 1846 to 1863, when the National Bank Act permitted the Treasury to use the national banks as depositories of its funds. Moreover, the Treasury refused to accept the notes issued by state banks; the Treasury therefore operated exclusively on a specie basis.

Under the Independent Treasury System, the Treasury became a major factor in the money market. On tax dates, funds were transferred to the Treasury from the individual banks, with a resulting strain on the reserves of the banks and a shortage of funds in the money market. The short-term rate of interest would soar to great heights for a short time and then return to normal levels as the funds were spent by the government and thus again became available to the individual banks. These disturbances in the money market caused the Treasury, after the national banking system was established, to use the national banks as depositories of Treasury funds. Yet the Treasury had full power to select whatever national banks it might choose to use or to deposit funds in the subtreasuries as it pleased. The availability of funds in the money market as a whole or in sectors of it could, therefore, be altered by Treasury actions, which might create either stability or instability in the money market.

<sup>1</sup> An act that called for the establishment of an independent treasury was passed in 1840, but this was repealed one year later.

Finally, the Federal Reserve Act of 1913 authorized the Federal Reserve banks to act as fiscal agents and depositories for federal monies, which functions they performed so efficiently that the Independent Treasury System was discontinued by action of Congress in 1920.

## IRREDEEMABLE FEDERAL NOTE ISSUES, 1862-1879

In the year 1860, when Abraham Lincoln was elected President of the United States, the condition of the Federal Treasury was far from satisfactory. Owing in part to widespread uncertainty over the future of the Union, a liquidation movement had gained impetus, making it difficult for the federal government to float securities at reasonable rates of interest. Some Treasury notes had been issued at rates ranging from 12 to 36 per cent. After Lincoln's election, similar issues were floated at about 10 per cent, reflecting a state of comparatively greater confidence. The outbreak of the Civil War, necessitating an immediate great increase in federal expenditures, resulted in a decision to issue notes (currency), which neither the federal government nor any institution chartered by the federal government had done since the expiration of the charter of the second Bank of the United States. Acting under legislation of July, 1861, the Treasury took the first step in this direction when it issued non-interest-bearing notes, which were a type of paper money, since they were receivable for all public dues. Moreover, at the time of their issuance they were declared to be redeemable in gold on demand. Soon, however, the Treasury suspended specie payments. Most banking institutions throughout the country had already suspended redemption of note issues before the federal Treasury took this action. These actions meant that the United States had adopted an irredeemable paper or fiat money standard.

The issuance of greenbacks. On February 25, 1862, the first of a series of legal tender acts was passed authorizing issuance of \$150,000,000 in United States notes, commonly called "greenbacks," in denominations of not less than \$5, one-third of which was to be used to retire previously issued demand notes. They were declared to be "lawful money and legal tender in payment of all debts, public



and private, within the United States, except for duties on imports and interest on public debt." The notes could be exchanged for 6 per cent bonds or deposited with any of the United States depositories at 5 per cent.

On July 11, 1862, the second legal-tender act was passed authorizing the issuance of an additional \$150,000,000 of greenbacks. One-third of this amount was set aside for redemption of funds in the government depositories. To alleviate the shortage of fractional silver coins existing at the time, the second legal-tender act provided that \$35,000,000 of the new issue should be in denominations less than \$5 but not less than \$1. On July 17, 1862, stamp money, known as "shinplasters" were issued in accordance with directions of Congress. They were declared to be redeemable in greenbacks. (Municipal governments and business firms also issued paper tokens, also frequently called shinplasters.)

The final issue of greenbacks was authorized on March 3, 1863. The amount authorized and issued was again \$150,000,000. The terms of the last issue did not permit their conversion into bonds and the right of conversion of the previous issues was suspended as of July 1, 1863.

In addition to the issuance of greenbacks, the federal government issued interest-bearing bonds and short-term Treasury notes. Total expenditures during the war period were financed by revenues from the following sources: \$356,000,000 from internal taxes, \$305,000,000 from the tariff, and \$2,622,000,000 from the sale of bonds and Treasury notes.

It is well known that the greenbacks in terms of gold depreciated greatly in the war period, the amount of the depreciation varying from time to time in accordance with sentiment concerning the probable outcome and duration of the war. From par in December, 1861, the gold value of the notes fell to the lowest point, 38.7 cents, in July, 1864.

After the close of the Civil War, great controversies took place concerning the disposition of the greenbacks. One group of people argued for immediate redemption in specie while another sought to increase the number outstanding. It was finally provided in the Specie Resumption Act of 1875 that they would be made redeemable in gold beginning on January 1, 1879. No increase in the number

outstanding was authorized and a decrease in the number outstanding was prevented by the provision that any notes presented for redemption should be reissued.

Earlier it was said that in financing the war of 1812 the services of a central bank were sorely needed. Again, during the Civil War no central bank existed that might perform fiscal services for the government. Had a central bank existed, it is likely that it might have rendered invaluable aid to the government in the flotation of bond issues at significantly lower interest costs.

### MONETARY LEGISLATION, 1873-1900

"The Crime of '73." While the United States was on an irredeemable paper money standard, 1862-1879, two items of congressional legislation of considerable significance took place. One of these was the Coinage Act of February 12, 1873, which dropped the silver dollar from the free coinage list. The significance of this act at the time of its passage was not fully appreciated, since only about six million silver dollars had been coined during the past twenty years. Its significance was more clearly seen when, after 1876, silver began to flow into the markets of the world in much greater volume than formerly. As the market supplies of silver bullion increased, the consequent price decline could not be arrested by the presentation of silver to the mints for coinage, where, prior to the Act of 1873, each unit of 371.25 grains of it could be coined into silver dollars at the discretion of any person. The silver producers dubbed this act which abolished the free coinage of the silver dollar the "Crime of '73," implying that a conspiracy had existed in the passage of the law.

The silver producers, who complained bitterly over the decline in the price of silver, were joined in their complaints by others who had been injured by the decline in the prices of other commodities. It was felt by many persons that the money supply had become inadequate to meet the needs of an expanding economy. The clamor for a greater supply of money—cheap money—was heard by the Congress whose first answer was the Bland-Allison Act of 1878.

The Bland-Allison Act of 1878. The Secretary of the Treasury was required under the Bland-Allison Act to make monthly purchases of silver at current market prices in an amount not to exceed \$4,000,000

and not less than \$2,000,000. The silver purchased by the Secretary was to be coined into silver dollars with a silver content of 371.25 grains. Silver certificates might be issued in denominations of ten dollars or more on the security of silver held in the Treasury. The new silver dollars were made full legal tender for all debts public and private, but no provision was made for their redemption in gold.

A glance at the situation in the year 1879 reveals that the following types of money were in circulation: United States notes (greenbacks), which were redeemable in gold; silver certificates, redeemable in silver dollars and for which no redemption facilities were provided; and national bank notes (described later in this chapter). This state of confusion has been described as "the limping standard," by which is meant a standard that is neither a clear-cut gold standard nor a bimetallic standard.

The Sherman Silver Purchase Act of 1890. Although under the Bland-Allison Act the Treasury had purchased, from 1878 to 1890, silver sufficient to coin \$378,000,000 of silver money, the silver producers and others pressed for greater purchases of silver by the Treasury. The result was the passage of the Sherman Silver Purchase Act of 1890 under which the Treasury was required to purchase 4,500,000 ounces of silver per month at the current market prices, not to exceed \$1.29 per ounce. The silver was to be purchased with newly issued silver certificates which came to be known as "Treasury Notes of 1890." It was provided that these notes were to be redeemable in gold or silver at the option of the Secretary of the Treasury, and it was provided further that he was required "to maintain the two metals on a parity with each other upon the present legal ratio or such ratio as may be provided by law." Thus, still another form of money was added to the kinds already in circulation.

Although it proved a difficult task, the Secretary of the Treasury succeeded in maintaining gold redemption for the treasury notes that were issued pursuant to the Sherman Silver Purchase Act. Widespread distrust caused by the state of confusion in the monetary system had led people to present paper money for gold. The drain of gold threatened the suspension of gold redemption, which, however, was maintained by the issuance of bonds each time the gold reserves fell to a dangerously low level. Even after President Cleve-

land had persuaded Congress to repeal the Sherman Silver Purchase Act in the autumn of 1893, the gold drain continued, necessitating issuance of additional bonds. In the years 1894 to 1896, over \$260 million of bonds were issued for the purpose of replenishing the gold reserves.

The Gold Standard Act of 1900. The Gold Standard Act of March 10, 1900, declared the gold dollar to be the standard unit of value, and the Secretary of the Treasury was directed to keep all other kinds of money on a par with gold. The gold redemption fund for redemption of the greenbacks was fixed at \$150 million. Hence this act of Congress, although it did not materially change the monetary system of the United States, served to give assurance that the United States was officially on a gold standard.

## THE NATIONAL BANKING SYSTEM

Arguments in favor of a national banking system. At the beginning of the Civil War, there existed in the United States approximately sixteen hundred state banks, with a total capital of \$420,000,000 and a note circulation of \$184,000,000, which notes were listed at varying discounts in the *Bank Note Detector*. These banking institutions operated under the laws of twenty-nine states. As to organization, there were banks with branches and independent banks, as well as free banks and institutions organized under special charters. Bank examinations ranged from those given by efficient boards of bank commissioners to examinations made as a mere formality in compliance with the letter of the law. About 7,000 different types of notes were circulated; in addition, more than 5,000 different types of fraudulent notes were in existence, including altered and spurious notes. Since most people were in no position to recognize or refuse questionable notes, the loss entailed by such an unbearable situation fell primarily upon the general public. Probably the strongest arguments in favor of a national uniform banking system were the lack of uniformity and lack of safety in the note issues.

Another defect was the unequal distribution of bank notes, a result of an inadequate banking structure. In New England, the circulation was approximately \$50,000,000. In Ohio, where the population was three-fourths as large, circulation amounted to \$9,000,000. Such

sectional inequality was very much stressed by business interests suffering under it.

Perhaps one of the most irritating aspects of state banking was its alternating contraction and expansion of the currency, irrespective of the needs of business. For example, in 1841, circulation amounted to \$107,000,000, at the end of 1842, to only \$59,000,000. In 1857, it reached its highest point prior to the Civil War when it stood at \$215,000,000; by the first of January 1858, it had been reduced to \$155,000,000.

Banking acts of 1863 and 1864. After considerable opposition on the part of state banks and opponents of banking offices of any kind chartered by the federal government, an act providing for the establishment of a national banking system was passed by a narrow margin of votes by Congress, which act became effective on February 25, 1863. It is significant that the National Banking Act of 1863 was entitled "an Act to provide a National Currency, secured by the pledge of United States stocks (bonds), and provide for the circulation and redemption thereof." This title indicates that the dominant motive of the act concerns the note-issuing function of banks rather than the bank credit or bank deposit function. Dissatisfaction with the performance of the note-issuing function by the state banks finally led, in 1866, as has previously been observed, to the assessment of a prohibitive tax (10 per cent) on their issuance.

The banking act of 1863 was so defective that it was replaced in its entirety by a new act which became effective on June 3, 1864. The chief provisions of this act concerned bank capital, note issues, reserves, and supervision. A brief statement of each of these provisions will be given in order that a better understanding of the structure and functions of the Federal Reserve System, to be described in the next chapter, may be gained. Only a few of the numerous amendments to the banking act of 1864 will be mentioned.

*Capital requirements.* National banks could be established by five or more individuals upon compliance with certain organizational formalities and capital stock requirements. The minimum capital required ranged from \$50,000 to \$200,000, depending on the population of the town or city in which the banks were located. The surplus account was required to be 20 per cent of capital stock, and the

surplus, unless paid in, was to be built up from the retention of at least one-tenth of yearly earnings before dividends could be paid.

*Note issues.* Each national bank was to deposit with the Treasury an amount of United States bonds equal to one-third of its capital stock or \$30,000 whichever was greater. (This limitation was removed in 1875; thereafter the banks were permitted to issue notes up to the limit of their paid-in capital.) Upon the collateral of government bonds, a bank could issue national bank notes, not in excess of the par value or market value of the bonds, whichever was lower. In 1900, the "circulation privilege" was restricted to certain issues of government bonds.

The bonds which served as collateral for the national bank notes were sold to provide funds to redeem the notes of any bank that had failed. Should this security prove inadequate, the government could exercise a prior lien on the assets of the bank. In order to make the notes of any one bank as acceptable as those of others, each bank was not only required to redeem its own notes at par but also to accept at par the notes of all other national banks.

Finally, in 1935, the bonds with the "circulation privilege" were refunded and the national bank notes were retired from circulation.

*Reserves.* All national banks were divided into three groups as a basis for determining legal reserves: central reserve city banks, reserve city banks, and other banks. The number of cities in each of these classes has changed from time to time. At present, only New York and Chicago banks are classified as central reserve city banks. The reserve requirement for central reserve city banks under the National Bank Act was 25 per cent against both notes and deposits, to be kept in the form of lawful money (specie or greenbacks) in their own vaults. (In 1870, reserve requirements against notes of all national banks were abolished and instead a redemption fund of 5 per cent in lawful money to be kept with the federal Treasury was established.) Reserve city banks likewise were required to maintain a 25 per cent reserve against deposit liabilities. At first, 16 cities were designated as reserve cities; later, as many as 60 cities were so designated. In their case, until the establishment of the Federal Reserve System, only one-half of the reserves was required to be held in the form of cash; the remainder could be deposited with approved banks

in central reserve cities. All banks outside the first two classes of cities, known as country banks, were required to maintain reserves equal to 15 per cent of deposits, two-thirds of which could be deposited with approved banks in central reserve or reserve cities.

*Bank supervision and regulation.* Prior to the passage of the Federal Reserve Act, which relaxed some of the former regulations, national banks were held rather strictly to the performance of commercial banking functions. One of the regulations under which they operated was that they were not permitted to make loans upon the security of real estate nor to purchase, hold, or transfer real estate except as was necessary for the conduct of their authorized business. Another regulation forbade them to engage in the trust business. They were also forbidden to do a savings bank business.

The prohibitions and regulations under which the national banks operated were, however, not so strict as to cause the promoters of banking institutions to refrain altogether from applying for charters for national banks. Rather, they encouraged a majority of the promoters to apply for state charters. In 1914, there existed 7,525 national banks and 19,240 state banks.

*The defects of the national banking system.* The experiences of the country in the crises of 1873, 1893, and especially 1907, made the defects and weaknesses of the national banking system more and more obvious. Troubles arose particularly from three sources: (1) the unsatisfactory character of the national bank note issues, (2) the unsatisfactory system of reserve requirements, and (3) the defective mechanism for the collection and clearing of checks.

*The unsatisfactory character of the national bank notes.* The national banking system, although it satisfactorily provided the economy with a secure and uniform bank note issue, can readily be adjudged to have been ineffective in the task of supplying the economy with an adequate, yet not excessive, supply of currency. Its ineffectiveness in this respect can be shown by noting that it failed to provide a currency with the needed degree of seasonal and cyclical elasticity, and that it failed to make provisions for an emergency currency.

The factor which regulated the total amount of notes in circulation was not the needs of business, but rather the availability and price

of the bonds required as security. Once paid out, national bank notes tended to remain in circulation until a reduction in the federal debt forced a contraction or until the market price of bonds increased to a level at which banks preferred to sell them in order to realize profits from such appreciation, rather than to continue using them as security for their bank notes.

A desirable *dégré* of seasonal elasticity in the note issue would, in most calendar years, require that the note issue should expand in December, fall in January and February, rise in the spring, fall in midsummer, and rise once again in autumn. The national bank notes showed no such response to payroll activities and retail trade. In seasonal periods when the demand for currency was high and the demand for credit accommodations was high, banks experienced difficulties in meeting the two demands at the same time, because their reserves of lawful money being drawn into circulation would approach or fall below the legal minimum. As a result, the amplitude of variations in money rates was greater than would likely have been the case had a banking system existed that could supply a currency with a higher degree of seasonal elasticity.

The lack of cyclical elasticity of the national bank notes can be shown by reference to almost any period of years when these notes were the only bank notes in circulation. For example, the period from 1885 to 1892 showed an increase in check clearings from \$38,000,000,000 to \$61,000,000,000. At the same time, the bank note issue declined from \$315,000,000 to \$172,000,000 in this period of rapid recovery from the depression period of 1884 to 1885. The essential cause of this diminishing circulation was the growing wealth of the country and the mounting tax revenues of the government. Large bond purchases by the government in advance of maturity, made mandatory by tremendous surpluses accumulating in the Treasury, forced bond prices to such heights as to induce banks to retire their note circulation and sell their bonds. It is sometimes asserted that the real explanation of the fall in the volume of national bank notes was the issuance of silver certificates under the Silver Purchase Acts of 1878 and 1890. While the effect of the increase of silver circulation was a contributory factor in the decline, it is nevertheless true that the major factor was the rise in the price



of bonds. Moreover, the primary effect of silver circulation was an expulsion of gold, rather than bank notes, from circulation.<sup>2</sup>

During the depression period 1893 to 1894, national bank note circulation expanded to \$209,000,000 in the face of business stagnation. This was to be expected as bond prices dropped, Treasury bond purchases ceased, and new bonds were floated to finance the Treasury's deficit. The lower the bond price, the higher were the profits obtained in using them as collateral for additional bank notes. If, for example, a \$1,000 bond bearing 4 per cent interest were bought for \$950 in the market, the yield on the investment accruing to the bank would be higher than would have been the case if the bank had paid \$1,000 for it. Moreover, circulating notes in an amount equal to the par value of the bond could be obtained from the Comptroller of the Currency.

The lack of provision for an emergency currency in a monetary and banking system can be even more distressing than a lack of an elastic note issue. In a period of widespread liquidation and hoarding, an elastic currency is not helpful in arresting the forces of depression. In such periods, an emergency currency might be sorely needed. The National Bank Act failed to provide for such currency and no other provisions for its issuance were made until 1908, as will later be noted.

*Weaknesses of regulation of bank reserves.* The system of redepositing reserves, previously described, led to a considerable concentration of deposits with reserve agents, particularly in a few large New York banks. The fault was, however, not with such concentration; concentration of reserves *per se* is desirable, for it provides a reservoir to be used in periods of emergency. The weakness was that these reserve agents were either unable or unwilling to assume this responsibility for the banking system as a whole.

Competition among the city banks increased interest payments on the reserve deposits to as high as 4 per cent. To enable city banks to show profits, earning assets had to be increased to the limit; thus, no possibility of holding a working reserve existed. The bulk of the balances was lent on call to brokers for the purpose of financing stock market transactions, usually purely speculative in nature. As

<sup>2</sup> Conant, Charles A., *A History of Modern Banks of Issue*. New York: G. P. Putnam's Sons, 1927, pp. 420-421.

long as brokers were able to shift loans when called, from one bank to another, the system worked. In periods of strain, the system broke down. The interior banks tried to recall reserve deposits at once which, in turn, necessitated the calling of brokers' loans by all banks. The result was wholesale forced liquidation of collateral with violent effects upon security values.

On two occasions, in 1893 and 1907, New York city banks suspended cash payments before drawing materially on their reserves. This was primarily due to the fact that the National Bank Act prohibited a bank with deficient reserves from expanding loans or paying dividends. Furthermore, should a bank remain deficient for thirty days after notice, the Comptroller of the Currency possessed discretionary powers to liquidate the institution. Experience clearly indicated that the threat of liquidation was too severe.

Other defects besides the ones mentioned were: (1) location was not a proper basis for reserve requirements; (2) no distinction was made in the classification of deposits between time and demand deposits and between individual demand deposits and interbank deposits; (3) no centralized control over reserves as a means of credit control existed; and (4), as will be discussed later, the stated reserves were largely fictitious, in view of the custom of crediting checks deposited at the time of deposit.

Thus the national banking system, while adhering to the theory that reserve balances are balances that are available when needed to meet an emergency, failed to make them available without making worse the crises that caused banks to withdraw them from the reserve depositories. Moreover, the National Bank Act did not provide for centralized control over bank reserves as an instrument of credit control, which is the chief purpose and function of reserve requirements. (The function of reserve requirements is discussed in Chapter 12.)

*Defective mechanism of check clearings.* The need for an efficient system of check collection and clearance and the improvements made by the Federal Reserve System over the national banking system in this regard are described in Chapter 13. It is sufficient at this point merely to state that the roundabout process of check clearings under the national banking system prior to the establishment of the Federal Reserve System was extremely inefficient.

Early proposals for banking reform. Although many proposals for improvement of the bank note issues were made in the first century after the establishment of the federal government, the earliest proposal for tying the note issue to commercial banking operations, that is, basing the note issue on commercial paper, was made by the "Indianapolis Convention" in 1897. Certain representatives of bankers and businessmen met in Indianapolis in that year for the purpose of preparing proposals for submission to Congress. The most important of these was the proposal that bank note issues should be based on commercial paper rather than government bonds, and that the note issue should be jointly guaranteed by the issuing banks. No action was taken by Congress on this proposal and others that were submitted from time to time by the House Banking and Currency Committee.

*The Aldrich-Vreeland Act.* The panic of 1907, resulting in the failure of hundreds of banks, the widespread cessation of banking activities, and the suspension of gold payments, aroused the country to the need for thoroughgoing banking reform. Numerous bills were introduced in Congress which treated such problems as legalization of notes issued by clearing houses, central banking, and emergency note issues. The result of this congeries of bills was the Aldrich-Vreeland Act of 1908. Under this Act, ten or more national banks were permitted to form a "national currency association," provided each cooperating bank could show an unimpaired capital and a surplus of not less than 20 per cent of capital stock. Only one such association could be established in a city. A board of directors composed of one representative from each constituent national bank was to be the managing agency. The association was to receive securities from its members in the form of approved bonds or commercial paper as collateral for such emergency currency issues.

The members of an association were to be jointly and severally liable to the federal government for redemption of any emergency notes put into circulation; the government, moreover, was to take a lien on the securities deposited and the total assets of the member banks. To forestall use of these notes in other than emergency times and to compel contraction of the issue as soon as practicable after the passage of a crisis, a tax was to be levied at the rate of 5 per cent per annum for the first month and 1 per cent for each additional

month until the tax amounted to 10 per cent for the first year; after this, a flat rate of 10 per cent was to be levied.

This plan for establishment of national currency associations to provide for an expansion of the note issue during financial emergencies was never considered an adequate solution of the nation's banking ills. The Act was to expire on June 30, 1914, but it was extended for one year by the Federal Reserve Act of December 23, 1913, in order to take care of any financial difficulties which might arise before the new Federal Reserve System could swing into action. Without this extension, difficulties would certainly have arisen in view of the increase in the demand for money arising from conditions engendered by the outbreak of World War I. The total amount of notes issued during the emergency of 1914 and 1915 was approximately \$400,000,000. During this period, 2,197 national banks organized 45 national currency associations. Almost \$3,000,000 in taxes were collected on this emergency issue.

One of the provisions of the Aldrich-Vreeland Act authorized Congress to appoint a monetary commission to study and report further legislation. After three years of extensive work, the commission through its able chairman, Senator Aldrich, submitted a plan to Congress.

**The Aldrich Plan.** The Aldrich Plan visualized a reserve association for the United States, to be situated in Washington, with one branch in each of fifteen districts into which the country was to be divided and with a capital of \$300,000,000. The plan was given the name "Reserve Association of America" to avoid the criticism which might arise to the establishment of a central bank in the United States. The Association was to be made up of subscribing national banks, state banks, and trust companies. Control was to be exercised by a board of directors, some of whom would be appointed by the President. The branch districts were to consist of local associations of not less than ten institutions in one particular locality.

The main powers of the Reserve Association were to be: to rediscount paper for the members; to accept deposits without interest from the members and the United States government; to buy and sell gold coin and bullion; to serve as a national clearing house for settlement of interdistrict balances; to buy and sell the securities of the federal government; to issue notes, payable upon demand in

gold up to \$900,000,000 against a security of part gold and part commercial paper; <sup>3</sup> to establish branches in localities in which the head offices of local banking associations were located; to engage in the buying and selling of foreign paper; and to provide for a uniform rate of discount throughout the entire country.

Additional power was to be given to the national banks in order to enable them to accept prime bills, perform fiduciary services for their customers, and extend real estate loans. On the other hand, the power of the national banks to issue notes was to be curtailed with the aim of gradually eliminating all national bank notes and substituting for them the notes of the new National Reserve Association.

This bill was never reported out of the Banking and Currency Committees in either branch of Congress. In its platform the Democratic Party declared its opposition to it. The Progressive Party, under the leadership of Theodore Roosevelt, fought the proposal for its lack of effective public control. The Republican Party in its monetary reform plank refused to endorse the Aldrich Plan. Seemingly, the electorate was led to believe that the Aldrich Bill was designed to establish a central bank in the European sense of the term.

Toward the end of 1912, work was begun on a new plan to provide for a system of regional banks, with the Comptroller of the Currency as the connecting link between the various regional banks. Hearings were held the following year. President-elect Wilson disapproved supervision by the Comptroller of the Currency and recommended a separate central board which would coordinate the operations of the entire system.

Many of the leading bankers of the day, especially those from New York and Chicago, engaged in active opposition to the act, which was known as the Glass-Owen Bill. Their opposition was directed in part against the provision which would establish as many as twelve regional banks and in part against the provision that the members of the proposed Federal Reserve Board should be appointed by the President with the advice and consent of the Senate. Members of the American Bankers Association in their annual convention in 1913 voiced opposition to the bill. Despite attacks from

<sup>3</sup> Both reserve requirements and limits of maximum issue might be suspended temporarily upon payment of an emergency tax.

these and other sources, the Congressional leaders who were sympathetic with the policies of President Wilson kept party lines intact and defeated attempts to change the bill in its main outlines.

The conference committee's report on the bill, after being subjected to five drafts, passed Congress on December 23, 1913, and was signed by the President on the same day. The difference between Sen. Glass' and Sen. Aldrich's bills was primarily one of control. The latter would have established control by one central body, the nation's banks possessing the preponderant voice in the appointments to the board, with the government as the voice of the minority. The Federal Reserve Act provided for a division of control between the reserve banks, which represented primarily the member banks, and the Reserve Board, which represented the government.

Summary. Much of the monetary and banking history of the United States can be written around one central theme, namely, resistance to regulation of the money supply by a central monetary authority. The first Bank of the United States and the second Bank of the United States were accused of attempting to exercise such regulatory powers and were discontinued when their charters expired. The discontinuance of these institutions allowed, for a period of almost thirty years, the state banks to issue bank notes without hindrance of regulations by any agency of the federal government. Although the strictures of many historians on the state banks concerning their note issues and other banking practices in this period doubtless are justified, an equally severe censure befits the failures of Congress to apprehend the monetary needs of the nation and to meet those needs with an adequate supply of a sound currency. Many communities were altogether dependent for a supply of a medium of exchange on the bad note issues of the state banks. When, at last, Congress imposed a tax on these note issues (1867) that drove them from circulation, the national bank notes, authorized by the National Bank Act of 1863, became the only bank notes in circulation for a period of almost fifty years. In this same period (1863-1913), controversy over the coinage of silver resulted in no satisfactory solution to the money problem. Owing in part to the failure to provide the economy with an adequate supply of good money, the nation suffered a long period of falling prices (1865-1897). Although some alleviation of this condition was accidentally

furnished by new discoveries of gold in widely separated areas of the world, which resulted in a greater supply of monetary gold, only temporarily were the demands for monetary and banking reform stilled. The Panic of 1907 was largely responsible for the renewal of these demands. The result was the passage of the Federal Reserve Act which became law on December 23, 1913.

### STUDY QUESTIONS

1. Struggles over what great issues have characterized the monetary and banking history of the United States?
2. "Although the basic issue has remained essentially the same, a shift in emphasis has occurred in the later as distinguished from the earlier period of our monetary history." Explain.
3. Describe the types of money in circulation in the colonial period of American history and explain their deficiencies.
4. "The first Bank of the United States was established on a 'shoestring,' which was also true of the second Bank of the United States." Explain, in terms of the capitalization of each.
5. To what extent did the first Bank of the United States and the second Bank of the United States perform the functions of a central bank; the functions of commercial banks?
6. Compare gold coinage in the United States before and after the Coinage Act of 1834. Make the same comparison with silver coinage.
7. Why did a market ratio of 15 to 1 while the mint ratio was 16 to 1, in the period 1834-1853, drive silver coins from circulation? To what extent did the Coinage Act of 1853 correct this situation and to what extent did this act represent an abandonment of free coinage?
8. "The operation of Gresham's law on the circulation of their notes was one of the reasons the banks of Boston supported the Suffolk plan for the redemption of the notes of other banks." Explain.
9. Describe malpractices in banking in the period 1836-1863. By whom and how were rather feeble attempts to correct these malpractices made? Did the federal government exert any power or influence toward an improvement in banking in this period?
10. What is meant by the "Independent Treasury System"? "Treasury operations, under this system, might be at times a factor of instability and at other times a factor of stability in the money market." Explain.
11. What are the alternative methods of financing a war? To what extent, in percentage terms, was each method used in financing the Civil War?
12. How might a central bank have aided the government in financing the Civil War?

13. In the post Civil War period what groups in the economy favored retirement of the greenbacks; the issuance of additional amounts?
14. Under what circumstances might silver producers who desire the monetization of the metal gain the support of other elements in the population?
15. Drawing on your knowledge of movements of the general price level in the United States in the period 1865-1897, can it rightly be said that "cheap money" always results in a rise in the price level? Explain.
16. "The National Banking System provided for a currency that was superior in at least two respects compared with state bank note issues in the period prior to 1863." Explain.
17. Explain the chief provisions of the National Bank Act of 1864, other than provisions concerning the note issue, which improved banking organization and practices.
18. Did the National Banking System provide the economy with an adequate, yet not excessive, supply of money?
19. What inadequacies or defects in banking organization and practices were revealed by experiences under the National Bank Act of 1864?
20. "The Panic of 1907 gave impetus to banking reform." Explain.
21. Why was considerable attention given to "emergency currency" after the Panic of 1907?
22. "Opposition to a central bank was strong as late as 1913, which opposition influenced the rejection of the 'Aldrich Plan' and the structure of the Federal Reserve System." Explain.



# CHAPTER

## 6

### THE FEDERAL RESERVE SYSTEM

**Introduction.** Although the Federal Reserve Act of 1913 does not clearly indicate an intent of the Congress to establish a monetary agency with ample powers for controlling the supply of money in the economy, the structure and functions given the Federal Reserve System are consistent with those of a central bank. The motivating force which determined the shape and purposes of the Federal Reserve System was a desire to overcome the chief defects of the banking system it superseded. That it took on some of the characteristics of a central bank is attributable to the fact that endowing a new banking system with those attributes seemed at the time to provide the best solutions to current monetary and banking problems.

In an effort better to describe the structure and to explain the functioning of the Federal Reserve System, a brief treatment of a central bank as an abstraction is undertaken.

#### THE FUNCTIONS OF A CENTRAL BANK

A central bank, as its name indicates, occupies a central position in the monetary and banking structure of which it is a part. The distinguishing characteristics are found in several attributes not usually associated with commercial banking operations: (1) it is a central reserve depository for the banks of the system and is vested with powers to control the reserve requirements of the commercial banks; (2) it has note-issuing powers; (3) it discounts paper and

otherwise advances funds to the commercial banks; (4) it engages in open market operations, that is, it adds to or subtracts from its earning assets; (5) it is endowed with supervisory powers over member banks; (6) it performs services for commercial banks, such as check clearings and collections; (7) it performs services for the government as a fiscal agent; and (8) it need have little concern over the profitability of its operations.

The central bank as a reserve depository. The banking laws of most countries require that the commercial banks maintain reserves against their deposit liabilities, and that those reserves be in the form of a deposit credit with the central bank in an amount equal to or in excess of a specified percentage of the commercial banks' deposit liabilities. The central bank, in turn, is required to maintain reserves against the reserve accounts of the commercial banks deposited with it. In a country on a metallic money standard, the reserves of the central bank might be in the form of gold. Thus indirectly the deposits of the commercial banks are secured by their earning assets (notes receivable and investment securities) plus their deposits with the central bank which are in turn secured, in part, by the metallic resources of the central bank and, in part, by the earning asset of the central bank.

These reserve requirements place the central bank in a position to exert an influence over the credit expansion potential of the commercial banks of the country. If the central bank has the power to alter the reserve requirements of the commercial banks, it may require them to maintain greater or lesser reserve balances. In the absence of such power, it may engage in open market operations in such manner as to alter the size of the reserve balances of the commercial banks, as explained later. Thus, the central bank possesses the means to alter the deposit-creating power of the commercial banks.

The note-issuing powers of the central bank. In most countries at the present time the central bank possesses the exclusive right to issue bank notes, or it shares with the national Treasury the right to issue circulating currency. It may be required that the central bank should hold a metallic reserve, or certificates representing a metallic reserve, against the notes it has issued. If this reserve is 25 per cent,

then, obviously, its note issue is limited to an amount equal to four times such reserve.

In some countries the central bank is obligated to issue its notes to the commercial banks upon the fulfillment by the latter of certain requirements, usually the presentation of certain types of paper, such as commercial paper or government securities. If the commercial banks can procure the notes of the central bank upon such presentation and the central bank is required to maintain a metallic reserve, such as gold, against its notes, the central bank must necessarily have accumulated an adequate amount of such reserves.

Discounts and advances of the central bank. The central bank in some countries acts solely as a "bankers' bank," which is empowered to extend credit to commercial banks, not to individuals and business firms. In other countries, the central bank acts in a dual capacity in that it may extend credit to banks and also make loans to individuals and business firms. Our chief concern at present is with the relationship between the central banks and the commercial banks of the country.

When a central bank discounts commercial paper for a commercial bank, or advances funds on the latter's own note, it extends its credit just as a commercial bank extends its credit when it makes a loan to a customer. (It is a mistake to say that the central bank lends some of the banks' reserves deposited with it when it discounts notes for the commercial banks, for the same reasons that it is a mistake to say that a commercial bank lends its deposit liabilities. See Chapter 4.) The factor that limits a central bank's power to extend credit is the reserve requirement imposed by law on the central bank. If the reserve requirement is an amount of gold expressed as a percentage of its deposit and note liabilities, then the amount of gold held by the central bank determines the extent to which it can extend credit.

The significance of the extension of credit by a central bank lies in the fact that it magnifies the deposit-creating powers of the banking system. If the central bank is required to maintain a reserve no less than 25 per cent of its deposit liabilities (ignoring the note liabilities of the central bank), the deposit-creating possibilities of the banking system are multiplied by four as compared with the situation under a reserve requirement of 100 per cent against the central

bank's deposit liabilities.<sup>1</sup> Thus the central bank can by withholding its credit refuse to participate in credit expansion of the banking system, assuming that it has been given full discretion in the matter, or it can participate by expanding its credit.

When the central bank extends credit through discounts and advances to the commercial banks, the initiative is taken by the commercial banks. Whether or not the central bank can refuse these applications for credit depends on the laws under which the central bank operates. If the central bank must grant the applications for credit that fulfill specified requirements, as is generally the case, it can raise or lower the rate at which it makes discounts and advances in an effort to discourage or encourage such applications.

Open market operations of the central bank. In its open market operations the central bank takes the initiative in the matter of expanding or contracting bank deposits, as contrasted with discounting operations wherein the commercial banks take the initiating steps. If the central bank should wish to exert its influence in the direction of curbing inflationary tendencies in the economy it would sell securities in the open market, which would reduce the deposits and reserve balances of the commercial banks. The central bank's purchases of securities in the open market for the purpose of forestalling or offsetting deflationary tendencies would be reflected in a rise in the deposits and reserve balances of the commercial banks.

It is generally agreed by students of monetary problems that the discount rate of the central bank is an ineffectual instrument of credit control unless it is supplemented by the use of open market operations. The latter, however, may have some significance independent of the former, since open market operations can have a positive effect regardless of the discount rate, especially in a depression period when the banks have ample reserves and a further lowering of the discount rate could hardly be expected to induce applications for the extension of central bank credit.

The role of the central bank in the economy can, perhaps, be most clearly seen in a depression period when widespread liquidation of property and widespread hoarding is taking place. In this situation the central bank can, through open market operations, take

<sup>1</sup> The significance of the imposition of reserve requirements on the central bank is explored further in Chapter 12.

property (securities, etc.) off the market and simultaneously furnish the economy with a greater supply of money. In the absence of a central bank, the commercial banks in a futile effort to increase their cash holdings to meet anticipated greater demands for cash by depositors would sell securities or other assets in the open market. This effort, although some banks might be successful in it, must necessarily be futile and even disastrous for the banking system, since a greater volume of cash is not available in the economy. The substitution of new money—the notes of the central bank—for the earning assets of the commercial banks, or the substitution of central-bank credit for those earning assets, can, in the situation described, forestall a deepening of the depression and save the banks from severe losses on their earning assets and the deterioration or destruction of their net sound capital.

**Supervisory powers of the central bank.** The central bank in most countries is given supervisory powers over the commercial banks and those powers are exercised chiefly through bank examinations, moral suasion, and the power of suspension from the central banking system. Although the chief purpose of these supervisory powers is to assure sound banking practices, they can be used as an instrument of credit control. Tightening and relaxing the regulations of the central bank, changing the methods of appraising bank assets, etc., have some effect on the volume of bank credit.

**Other service functions of the central bank.** In addition to services rendered by discounting paper and making advances to the commercial banks, the central bank performs such services as providing facilities for check clearings and collections. In most countries the central bank has greatly increased the efficiency of clearing operations. It has also provided for more efficient transfer of funds from one part of the country to another and for the transfer of funds from one country to another. Another service function that the central bank has performed efficiently is the distribution of coins and currency to meet the needs for such money whenever and wherever they might appear.

**The central bank as a fiscal agent.** The central bank serves as the banker for the government. It carries the principal checking account of the national Treasury, crediting that account with proceeds of tax collections and debiting that account with amounts disbursed by the

Treasury. It also handles much of the work entailed in issuing and redeeming government securities and paying interest on those securities. It might also be empowered to buy government securities directly from the national Treasury, which might be a great help in maintaining an orderly distribution of those securities.

The central bank need not follow a profit motive. In some countries the central bank is nationalized, that is, it is owned and operated by the government rather than by private investors; in others it is privately owned and partially or wholly controlled by the government. Whatever the ownership, it is generally recognized that the central bank should not be operated in accordance with the profit motive. Rather, it should be operated in the interests of the general public welfare. In order to assure freedom from the profit motive, it is in most cases provided that the profits of the central bank shall in whole or in part be paid into the national Treasury. In countries where the central bank is owned wholly by the national government, the entire amount of the earnings accrues to the government, except that part which may be allocated to reserve and surplus accounts. Where central banks are privately owned, no pattern for the distribution of the earnings is clearly discernible. Most of them provide, in accordance with a formula which is subject to change by the national legislature, for retention by the bank of a part of the earnings and allocation of the remainder to the stockholders and the national government.

To give further assurance that the central bank is operated in the general public welfare, rather than in such manner as to maximize its earnings, it is provided in most countries that the management (the Board of Directors) shall be representatives of the general public, appointed by the head of the national government or otherwise chosen by the government.

## STRUCTURE OF THE FEDERAL RESERVE SYSTEM

The Federal Reserve System comprises the following:

1. The Board of Governors of the Federal Reserve System
2. The twelve Federal Reserve banks
3. The Federal Open Market Committee

4. The Federal Advisory Council
5. The member banks of the Federal Reserve System

**The Board of Governors.** The Board of Governors of the Federal Reserve System on February 1, 1936, supplanted a similar supervisory agency, the Federal Reserve Board, which was created by the Federal Reserve Act of 1913. The Board of Governors is composed of seven members who are appointed by the President of the United States and whose appointments are confirmed by the Senate. Members are appointed for terms of fourteen years, so arranged that the term of office of one member expires every two years. Although no member who has served one full term may be reappointed, all but one of the members of the Board in 1936 were appointed for shorter terms, ranging from two to twelve years, and could be reappointed for a full term of fourteen years after the expiration of the part-term. No two members may be appointed from the same Federal Reserve district and a member is "ineligible to hold any office, position, or employment in any member bank" during the time he is in office and for two years thereafter (Sec. 10, par. 2). The President shall, in selecting the members of the Board, "have due regard to a fair representation of the financial, agricultural, and commercial interests, and geographical divisions of the country."

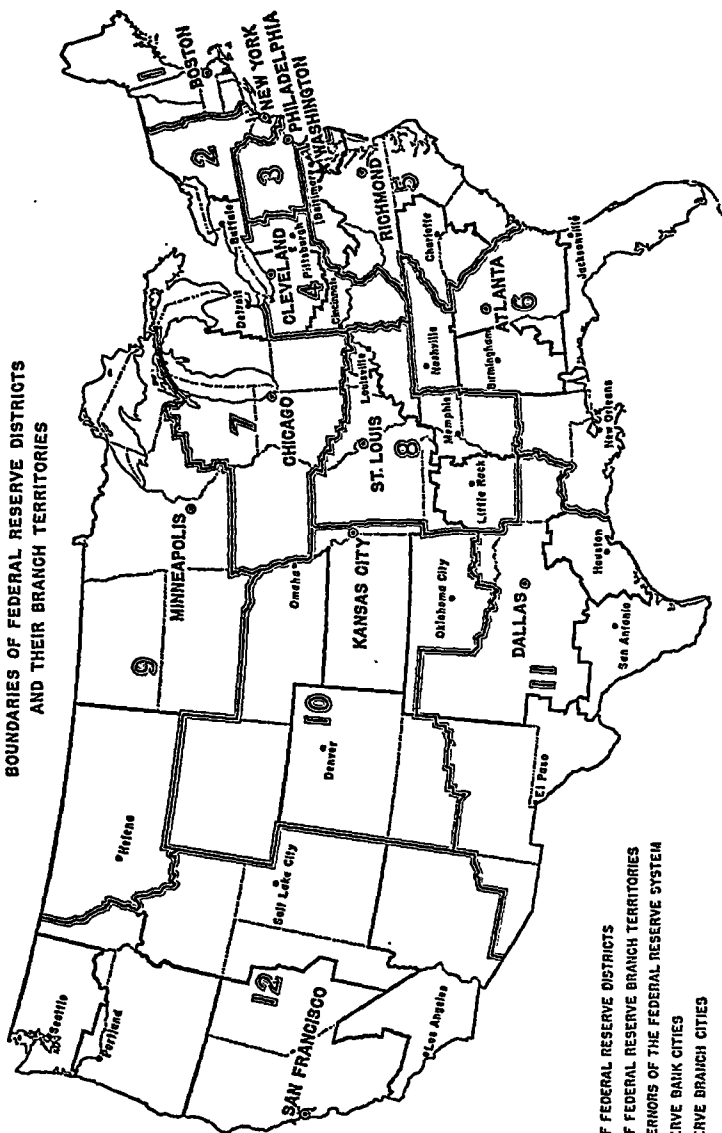
**The Federal Reserve banks.** An important characteristic of the Federal Reserve System is its decentralization. Twelve regional banks located in important cities within Federal Reserve districts are the principal operating units of the system. Each is a corporation which was originally given a charter to operate for twenty years. Later legislation (in 1927) provided for the extension of the charters for an indefinite period.

The location of the Federal Reserve banks and their branches and the boundaries of the Federal Reserve districts are shown in Figure 1.

**Capitalization of the Federal Reserve banks.** The capital stock of each Reserve bank is subscribed by the member banks of its district in an amount equal to six per cent of the member's capital and surplus, one-half of which must be paid in, the balance being subject to call. The Board of Governors has not as yet found it necessary to call for capital stock subscriptions by member banks for any part

# FEDERAL RESERVE SYSTEM

BOUNDARIES OF FEDERAL RESERVE DISTRICTS  
AND THEIR BRANCH TERRITORIES



- BOUNDARIES OF FEDERAL RESERVE DISTRICTS
- BOUNDARIES OF FEDERAL RESERVE BRANCH TERRITORIES
- ★ BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
- FEDERAL RESERVE BANK CITIES
- FEDERAL RESERVE BRANCH CITIES

Fig. 1



of the amount subject to call. Since the amount of stock held by each member bank increases or decreases in accordance with changes in its capital and surplus and since the membership in the system is continuously changing, the capital of the Reserve banks is subject to continuous change.

*The management of the Federal Reserve banks.* Each Federal Reserve bank is managed by a board of nine directors, three of whom are known as Class A directors, three as Class B directors, and three as Class C directors. Class A and Class B directors are elected by the member banks. Class A directors may be bankers. Class B directors must be actively engaged in commerce, agriculture, or some other industrial pursuit, and must not be officers, directors, or employees of any bank. Class C directors are chosen by the Board of Governors. They must have been residents of their respective districts for at least two years prior to their appointments. One of them in each Reserve bank serves as chairman of its board of directors. He also serves as the Federal Reserve Agent, in which capacity he has authority to supervise the issuance of the Federal Reserve notes of the bank in which he holds office.

The term of office of all directors is three years. The terms of office of Class A and Class B directors are so arranged that one of each of these directors is elected each year. For voting purposes the member banks are divided into three classes, namely, large, medium-sized, and small banks. Banks in each classification elect one Class A and one Class B director every three years.

The chief executive officer of a Reserve bank is the president, who is chosen by the board of directors, subject to the approval of the Board of Governors, for a term of five years. The appointment of the first vice president is also subject to the approval of the Board of Governors.

The management of each branch of the Federal Reserve banks—twenty-four in number—is vested in a board of directors which may consist of not less than three nor more than seven members, of whom a majority is appointed by the board of directors of the Federal Reserve bank of the district. The others are appointed by the Board of Governors. In most cases, the chief officer of a branch is a vice president of the Federal Reserve bank of the district.

*Distribution of earnings.* The Federal Reserve banks are authorized by the Federal Reserve Act to pay a cumulative dividend of 6 per cent on their stock held by the member banks. This maximum amount has been paid yearly since the establishment of the System.

The Federal Reserve Act in its original form required each Federal Reserve bank to pay a franchise tax to the government equal to 90 per cent of its net earnings after it had accumulated a surplus equal to its subscribed capital. By the amendment to the Federal Reserve Act, contained in the Banking Act of 1933, which provided for the establishment of the Federal Deposit Insurance Corporation, it was provided that each Federal Reserve bank should subscribe to stock in the F.D.I.C. in an amount equal to one-half its surplus on January 1, 1933, and no dividends were to be paid on this stock. Since these subscriptions substantially reduced the Reserve banks' surplus, Congress eliminated the franchise tax in order that the Reserve banks might be permitted more speedily to restore their surplus accounts from future earnings. At the end of 1946, the combined surplus accounts of the twelve Federal Reserve banks exceeded their combined capital accounts. In April, 1947, the Board of Governors announced its intent to invoke a power that it had never before used, namely, its power under Section 16, paragraph 4, of the Federal Reserve Act to require each Federal Reserve bank to pay a tax on the amount of its outstanding notes less the amount of gold certificates held by the Federal Reserve Agent as collateral security. In carrying out this announced purpose, each of the twelve Federal Reserve banks has transmitted to the Treasury approximately 90 per cent of its net earnings after dividend payments to the member banks. Thus the Federal Reserve banks, on the initiative of the Board of Governors, have restored the equivalent of the original franchise tax which had been repealed in 1933. The Board of Governors has also suggested that the F.D.I.C. should retire the stock held by the Reserve banks by payments to the Treasury rather than by payments to the Reserve banks.<sup>2</sup>

The Federal open market committee. In the formative years of the Federal Reserve System it became evident that some degree of coordination in the open market operations of the twelve Federal

<sup>2</sup> See *Federal Reserve Bulletin*, May 1947, pp. 521-523.

Reserve banks was needed. In the absence of coordinated transactions involving purchases and sales of securities in the open market, the activities of one of the Reserve banks might be nullified by those of another. The first effort to coordinate these transactions was made on the initiative of the Reserve banks when, in 1922, a committee composed of the governors of four of the Reserve banks was formed, which was known as the Open Market Investment Committee. In 1930, the governors of all the Federal Reserve banks were included in the formation of the Open Market Policy Conference. The next step was taken by Congress when, in the Banking Act of 1933, the Federal Open Market Committee composed of one representative of each of the Federal Reserve banks was established. Two years later, in accordance with a provision of the Banking Act of 1935, the entire membership of the Board of Governors was placed on the Federal Open Market Committee and the representation of the Reserve banks was reduced to five. The president or vice president of the Federal Reserve Bank of New York serves each year on this committee. The others are elected by the following groups of Reserve banks, one representative serving each group: Boston, Philadelphia, and Richmond; Cleveland and Chicago; Atlanta, Dallas, and St. Louis; Minneapolis, Kansas City, and San Francisco. Only the presidents and vice presidents of these banks are eligible for election. Thus the Board of Governors now dominates the committee, unless a minority of the Board unites with the representatives of the Reserve banks to defeat the majority view of the Board.

**The Federal Advisory Council.** The Federal Advisory Council, as its name implies, has advisory functions only. It is composed of twelve members, one selected annually by each of the Reserve banks through its board of directors. Usually, the members who are chosen are active, distinguished bankers. They meet at least four times a year with the Board of Governors for the purpose of reporting business conditions in the various districts and to make recommendations regarding the affairs of the Federal Reserve System.

**The member banks.**

*Requirements for membership.* All national banks are required by the Federal Reserve Act to be members of the Federal Reserve System. Other banks, including commercial banks, mutual savings banks, trust companies, and industrial banks that are organized

under state charters may join the Federal Reserve System provided they are able to satisfy the requirements for membership.

The most important qualifications for state bank membership in the Federal Reserve System pertain to capital requirements, reserve requirements, bank examinations, par collections on checks, and general banking practices of the applicants for admission. With one exception, a state bank which applies for membership must have capital accounts equal to those that would be required of a national bank located in the same town or city. The exception relates to state banks located in towns with a population less than 3,000, where national banks would be required to have capital stock not less than \$50,000. A state bank in these communities with capital stock of \$25,000 may be declared eligible for membership if it is a member of the Federal Deposit Insurance Corporation. State bank members must observe the reserve requirements of the Federal Reserve System. They must submit to the examinations required of all member banks. Moreover, they must remit at par for all checks cleared through the clearing and collection facilities of the Federal Reserve System. In general, state bank members, as well as other members, must observe the regulations of the Federal Reserve System, and are subject to expulsion from the System if the Board of Governors finds violations of regulations serious enough to warrant such action.

*Advantages of membership.* On June 30, 1947, there were 14,602 banks in the United States, of which number 6,928 were members of the Federal Reserve System. Although less than half of the total number of banks were members of the Federal Reserve System, the member banks held slightly more than 85 per cent of total bank deposits.

The advantages of membership in the Federal Reserve System are found in the services rendered by each of the Federal Reserve banks and the central bank operations carried on jointly by them. The most valuable of these service functions are the clearing of checks, the collection of drafts and other items, the collection of maturing obligations, the transfer of funds, and the handling of coins and currency at the request of the member banks.

*Objections to membership.* Although the number of state banks that have joined the Federal Reserve System has increased in recent years, the deterrents to membership are strong. One of these is that

many small banks obtain services from correspondent banks comparable to those rendered by the Federal Reserve banks. Moreover, the nonmember banks benefit either directly or indirectly from the service functions of the Reserve banks. For example, nonmembers may utilize the check clearing facilities of the Federal Reserve System by keeping a balance on deposit with a Reserve bank, provided they agree to remit at par. Indirectly, the nonmembers use the facilities of the Federal Reserve System because their correspondents are members.

Other deterrents to membership have been set forth in a report of a study of this subject as follows:

Banks occasionally give one or more of the following reasons for abstaining from membership: unwillingness to be subject to both Federal and State bank regulations, supervision, and examination; opinion that the Federal Reserve System's power to regulate is too broad; opposition to increasing governmental control; belief that the Federal Reserve examiners are too severe in their criticism; belief that the Federal Reserve System encourages branch banking, to which they are opposed; assumption that the Federal Reserve System is opposed to the dual banking system, which they wish to have continued; fear that their applications might be turned down because of presence of undesirable assets; belief that membership would subject them to an excessive amount of inconvenience and red tape, and put them to extra work on account of the numerous reports to be filled out, etc.<sup>3</sup>

Another objection to membership in the Federal Reserve System which falls in a different category is that which relates to the failure of some state banks to qualify for membership. Failure to qualify is in most cases attributable to one or more of the following causes: (1) inadequate capital; (2) unwillingness to forego remittance charges on checks drawn against them—par remittance on checks is required of all member banks; (3) unwillingness to adjust loan and investment policies to the requirements of federal statutes and the regulations of federal agencies.<sup>4</sup>

<sup>3</sup> Wingfield, B. Magruder, *Banking Studies*, Washington: Board of Governors of the Federal Reserve System, 1941, pp. 289-290.

<sup>4</sup> Capital requirements, par remittances, and regulations concerning member-bank loans and investments are explained in later chapters.

## OPERATIONS OF THE RESERVE BANKS

The most important activities of the Federal Reserve banks are:

1. The collection of checks and drafts
2. The collection of maturing notes, bills, and coupons
3. Currency operations
4. Discount operations
5. Open market operations

**Collection and currency operations.** Since mention has been made in the discussion of the advantages of membership in the Federal Reserve System of the check clearing, collection, and currency operations of the Federal Reserve banks, these activities can be lumped into one group for our present purposes. The number and volume of these operations are presented in Table 4, which table also shows the number and volume of the loans and discounts and some of the fiscal agency operations of the Reserve banks.

**Discount operations.** One of the chief purposes in the establishment of the Federal Reserve System was to provide facilities for making discounts and advances for the benefit of the member banks. The nature of these transactions may best be described as loans of the Reserve banks to the member banks or indebtedness of the member banks to the Reserve banks. A *discount* of a Reserve bank is sometimes called a *rediscount* because it is made on the initiative of the member bank as it takes from its portfolios a promissory note or similar instrument on which it has made a loan to a customer and receives a loan from a Federal Reserve bank on the same instrument. Thus the member bank borrows on its claim against its customer, the bank being liable on the instrument because it is required to endorse it. An *advance* differs from a discount in that it is granted by a Reserve bank upon a promissory note of the member bank itself. Both discounts and advances are granted to member banks on terms defined by the Federal Reserve bank, the latter being governed by statutory limitations and policy decisions in the matter.

The original Federal Reserve Act made no provisions for advances to the member banks, and it strictly defined the terms on which discounts might be made. Under its provisions only "notes, drafts, and bills of exchange arising out of actual commercial transactions"

TABLE 4

VOLUME OF OPERATIONS IN PRINCIPAL DEPARTMENTS  
OF FEDERAL RESERVE BANKS, 1941 AND 1945

[Number in thousands; amounts in thousands of dollars]

	1941	1945
NUMBER OF PIECES HANDLED <sup>1</sup>		
Discounts and advances:		
Applications	2	8
Notes discounted and advances made	4	8
Industrial loans:		
Loans made	.6	( <sup>2</sup> )
Commitments to make industrial loans	.2	( <sup>2</sup> )
Currency received and counted	2,529,703	3,016,719
Coin received and counted	3,216,761	4,562,709
Checks handled:		
U. S. Government checks	123,128	510,608
All other	1,142,465	1,341,342
Collection items handled:		
U. S. Government coupons paid <sup>3</sup>	15,047	18,292
All other	6,392	4,483
Issues, redemptions, and exchanges by fiscal agency department:		
U. S. Government direct obligations	13,479	<sup>4</sup> 381,593
All other	411	474
Transfer of funds	840	939
AMOUNTS HANDLED		
Discounts and advances	125,178	34,778,804
Industrial loans:		
Loans made	15,695	14,043
Commitments to make industrial loans	19,530	2,350
Currency received and counted	11,283,817	18,307,687
Coin received and counted	327,555	445,892
Checks handled:		
U. S. Government checks	27,732,559	124,610,917
All other	334,336,667	563,498,349
Collection items handled:		
U. S. Government coupons paid <sup>3</sup>	926,960	2,348,172
All other	6,003,082	9,295,666
Issues, redemptions, and exchanges by fiscal agency department:		
U. S. Government direct obligations	33,278,154	<sup>4</sup> 299,624,101
All other	3,262,012	2,729,452
Transfer of funds	118,423,057	223,490,280

<sup>1</sup> Revised.<sup>1</sup> Two or more checks, coupons, etc., handled as a single item are counted as one "piece."<sup>2</sup> Less than 500.<sup>3</sup> Includes coupons from obligations guaranteed by the United States.<sup>4</sup> Except Treasury savings certificates and war savings stamps received for redemption.Source: *Annual Report of the Board of Governors*, 1945, p. 69.

might be discounted. Moreover, such paper could be used to obtain credit accommodation for periods not to exceed ninety days, except that agricultural paper might be rediscounted with maturities up to nine months. The intent of these limitations was to prevent the extension of credit by the Federal Reserve banks for investment, speculative, and consumption purposes. A large number of rulings were issued pertaining to the "eligible paper." Under these rulings, before amendments to the Federal Reserve Act made significant alterations in the discretionary powers of the Federal Reserve banks, a promissory note given to a member bank to provide a business firm with funds to buy machinery was not eligible paper. The underlying theory in accordance with which the definition of eligible paper was administered was the "commercial loan theory of bank credit," which was discussed in Chapter 4.

The decline of the traditional view of "commercial" banking, reflected in the small amount of eligible paper held by member banks and other banks at the end of 1929, caused Congress to change significantly the theory under which Federal Reserve policies concerning the extension of Federal Reserve credit were to be determined. The first step in this direction was made in the Glass-Steagall Act of February 27, 1932, in which legislation the Federal Reserve Board (later called the Board of Governors) was authorized to permit the Federal Reserve banks to make advances to member banks on their promissory notes secured by any collateral satisfactory to the Reserve banks. Since the legislation of 1932 was considered to be emergency legislation, Congress, wishing to reaffirm its grant of greater discretionary power to the Reserve banks, provided in the Banking Act of 1935 that "any Federal Reserve bank, under rules and regulations prescribed by the Board of Governors of the Federal Reserve System, may make advances to any member bank on its time or demand notes having maturities of not more than four months and which are secured to the satisfaction of such Federal Reserve bank. Each such note shall bear interest at a rate not less than one-half of 1 per centum higher than the highest discount rate in effect at such Federal Reserve bank on the date of such note" (Federal Reserve Act, Sec. 10b).

*Advances upon federal obligations.* Should a bank, whether a member or nonmember, wish to secure an advance upon the secu-



urity of direct and guaranteed obligations of the United States, it may do so without the penalty rate attached to advances for four months "secured to the satisfaction of the Reserve bank." Advances may be granted for ninety days secured by the deposit or pledge of bonds, notes, certificates of indebtedness, or Treasury bills of the United States. (During World War II and for a short while thereafter, these advances were granted at preferential rates as a means of facilitating issuance of government securities.) Advances for periods of fifteen days may be granted upon deposit or pledge of securities issued by the Federal intermediate credit banks, Federal Farm Mortgage Corporation, and securities issued under the Home Owners' Loan Act (Sec. 13, par. 8).

In recent years most of the total discounts and advances of the Federal Reserve banks have been advances secured by United States Government securities. At times, no customers' paper whatsoever has been held by the Reserve banks. Banks have found it much more convenient to present their own promissory notes than to offer customers' paper when temporary aid is needed from the Reserve banks.

Usually the occasion for seeking Federal Reserve bank credit are deficiencies in the reserve balances of the bank that applies for it. The deficiencies in the reserve balances are in turn usually caused by an expansion of the banks' credit. Alternative methods of supplying additional reserve balances required against the larger volume of deposits created by bank credit expansion are: (1) rediscounting of customers' paper, (2) receiving advances from the Reserve banks, and (3) selling government securities to the Reserve banks. Although different circumstances alter the choice, the second of these alternatives, as has been said, has been more favored than the first. In cases where the commercial banks hold some short-term, low-yield government securities, the third of these alternatives may be more favored than the second, because the banks are then, in effect, exchanging low-yield earning assets for higher-yield assets.

*Advances to commercial and industrial enterprises.* The provisions of Section 13b added to the Federal Reserve Act by Congress in the Act of June 19, 1934, allow the Federal Reserve banks to make advances to established commercial or industrial enterprises for the purpose of supplying working capital. Such advances, which are

called "industrial loans," are made by the Reserve banks either directly or in participation with a member or nonmember bank. They may be made directly by the Reserve banks only if the borrower is unable to obtain the required financial assistance on a reasonable basis from the usual sources.<sup>5</sup>

The great majority of advances under this section of the Federal Reserve Act are made with commitments by the Reserve banks to discount the paper on demand without recourse, but the member or nonmember bank must obligate itself for not less than 20 per cent of any loss that may be sustained. These advances may be made for periods up to five years. The Act also provides for an industrial advisory committee in each Federal Reserve district to advise the Reserve banks on matters relating to these loans. Each of these committees is composed of three to five persons who must be actively engaged in industrial pursuits.

Under Section 13b, Federal Reserve banks had handled up to December 31, 1946, 3,500 applications for commitments and advances aggregating approximately \$560 million. In October, 1947, the volume outstanding was slightly less than \$2 million.

**Open market operations.** Open market operations of the Federal Reserve banks, directed by the Federal Open Market Committee, are significant chiefly as an instrument of credit control. Examination of these activities in detail is, therefore, deferred to chapters devoted to Federal Reserve policies (Chapters 20 and 21). It is sufficient at this point to observe that open market operations constitute a much more important method of extending Federal Reserve bank credit than discounts and advances. Through open market purchases, chiefly purchases of United States Government securities, the Reserve banks supply funds to the money markets. Open market sales by the Reserve banks withdraw funds from the money market. Thus, these operations expand and contract the money supply of the economy. In other words, they encourage or discourage extension of

<sup>5</sup> A bill is now before Congress (S. 408) which would repeal Section 13b of the Federal Reserve Act and substitute therefor a provision that would enable Federal Reserve banks to guarantee in part loans by chartered banks particularly to small and medium-sized businesses that need capital up to ten years. Should this bill become law, the Reserve banks could not make direct industrial loans and could not guarantee any loan unless requested to do so by the local bank. See testimony of Chairman Eccles before the Banking and Currency Committee of the Senate on April 17, 1947.

bank credit and, assuming that they are effective, they thereby expand and contract the volume of bank deposits.

It has previously been observed that the Federal Open Market Committee directs the open market purchases of the Federal Reserve System. The securities acquired in this manner are apportioned among the Federal Reserve banks on the basis of their expense and dividend requirements. These securities provide by far the most important earning assets of the Reserve banks.

The volume of reserve bank credit outstanding, by types of assets held by the Reserve banks, on selected dates, 1917-1948, is set forth in Table 5.

**Fiscal Agency, custodianship, and depository operations.** As is true of central banks generally, the facilities of the Federal Reserve banks are used extensively by the government. Since the Act of May 29, 1920, the Federal Reserve banks have assumed the operations relating to coins and currency formerly handled by the subtreasuries, which were abolished. The location of the Reserve banks and branches in principal cities in all sections of the country has greatly facilitated the work of the Treasury and of many federal agencies.

One of the principal services performed by the Federal Reserve banks for the Treasury are those involved in the issuance, redemptions, and exchanges of government securities. In accordance with instructions of the Secretary of the Treasury, the Reserve banks print the announcements describing new Treasury issues, distribute them, receive subscriptions, and make deliveries of the securities. Table 4 shows that the Reserve banks handled 381,593,000 government securities in their fiscal agency departments in 1945, involving almost \$300 billion.

Depository operations of the Reserve banks for the Treasury consist mainly of handling of "Treasury deposits with the Federal Reserve banks." In the course of a year, the transfer of United States Government deposits with commercial banks to the Reserve banks and the debiting of checks to the Treasury's account involve the handling of hundreds of millions of items. In 1945, as shown by Table 4, the Reserve banks handled over 508 million government checks, involving about \$125 billion. The payments of U.S. Government coupons is another big item in Reserve bank operations. Over 18 million government coupons were paid, involving \$2,348 million.

TABLE 5

RESERVE BANK CREDIT OUTSTANDING, BY TYPES OF ASSETS  
HELD BY THE FEDERAL RESERVE BANKS, ON  
SELECTED DATES, 1917-1948

(In millions of dollars)

Reserve bank credit outstanding

End of month	Bills discounted	Bills bought	U.S. Government securities	All other <sup>2</sup>	Total
December, 1914	10			1	11
December, 1919	2,215	574	300	203	3,292
December, 1924	320	387	540	54	1,302
December, 1929	632	392	511	48	1,583
December, 1934	7	6	2,430	20	2,463
December, 1939	7		2,484	102	2,593
December, 1941	3		2,254	104	2,361
December, 1944	80 <sup>1</sup>		18,846	819	19,745
December, 1945	249 <sup>1</sup>		24,262	580	25,091
December, 1946	163 <sup>1</sup>		23,350	581	24,093
September, 1947	92 <sup>1</sup>		22,329	308	22,730
February, 1948	327 <sup>1</sup>		21,925	530	22,782

<sup>1</sup> Discounts and advances.

<sup>2</sup> Includes industrial loans and acceptances.

Source: *Banking and Monetary Statistics*, pp. 373-377, and *Federal Reserve Bulletins*, 1942-1947.

The Federal Reserve banks also act as fiscal agents and custodians concerning gold and silver under the Gold and Silver Purchase Acts of 1934 and they serve as agencies in foreign exchange transactions. The Federal Reserve Bank of New York keeps accounts of "earmarked" gold for foreign central banks, which gold is not a part of the gold stock of the United States. Changes in these accounts often obviates the necessity for shipments of gold.

Services for government agencies. In recent years, the Reserve banks have acted as fiscal agents, custodians, and depositories for departments and agencies of the federal government other than the Treasury, such as the Reconstruction Finance Corporation, the Commodity Credit Corporation, the Federal Land Banks, the Federal Deposit Insurance Corporation, and many others.

Other operations of the Federal Reserve banks. In addition to the operations which have been described, numerous other activities of

the Federal Reserve banks should be mentioned. These have been listed in a study of the operations of the Reserve banks as follows:

(1) Examining State member banks and banks that apply for membership in the Reserve System; (2) keeping informed of the general character and amount of the loans and investments of member banks with a view to ascertaining whether undue use is being made of bank credit for speculative or other purposes inconsistent with the maintenance of sound credit conditions; (3) receiving and analyzing applications from national banks to exercise trust powers, and from holding companies to vote the stock of member banks; (4) receiving and checking call reports of condition and of earnings and dividends from state member banks; (5) maintaining deposit accounts and performing other services for foreign central banks; (6) administering most of the regulations issued by the Board of Governors of the Federal Reserve System and giving advice as to their interpretation; (7) administering certain features of the Securities Exchange Act relating to margin requirements on security loans by banks, and by brokers and dealers in securities; (8) making telegraphic transfers of funds for member banks; (9) holding securities in safekeeping for out-of-town member banks; and (10) keeping informed of economic developments in their districts and publishing monthly reviews of business conditions.<sup>6</sup>

## DUTIES OF THE BOARD OF GOVERNORS

Some of the activities of the Board of Governors of the Federal Reserve System have been indicated in the discussion of the operations of the Federal Reserve banks. Others are described in appropriate places in later chapters. For example, regulations concerning bank loans are described and examined in the chapter devoted to bank loans. It is, therefore, sufficient in this chapter to observe the nature of the duties of the Board. These duties are characterized by great diversity, ranging from a broad policy decision, which may affect the money supply of the economy as a whole, to a decision regarding the application of a member bank to establish a branch in a particular location.

The great number and the wide extent of the duties of the Board have necessitated establishment of eight administrative divisions into which the staff of the Board is divided. These are: Office of the

<sup>6</sup> Smead, Edward L., "Operations of the Reserve Banks," in *Banking Studies*, Board of Governors of the Federal Reserve System, Washington, 1941, p. 265.

Secretary; Legal Division; Division of Research and Statistics; Division of Examinations; Division of Bank Operations; Division of Security Loans; Division of Personnel Administration; and Division of Administrative Services. Although the work of each of these administrative divisions is worthy of attention, it is chiefly with the power of the Board to issue rules and regulations and with the determination of general credit policy that we are presently concerned.

**The issuance of rules and regulations.** The power of the Board of Governors to issue rules and regulations rests partly upon specific provisions of the Federal Reserve Act and other legislation and partly upon an "elastic clause" of the Federal Reserve Act which directs the Board to "perform the duties, functions, or services specified in this act and make all rules and regulations necessary to enable said Board effectively to perform the same."

Pursuant to such statutory authority, the Board has issued, acting always with advice of counsel, twenty-three regulations, which are designated by successive letters of the alphabet beginning with Regulation A issued in 1914. An enumeration of these regulations serves to indicate, in part, the nature of the Board's powers and duties. Ignoring eight regulations pertaining to the Federal Reserve banks (Regulations A,B,E,G,I,J,N,S), the subject matter of the fifteen other regulations may be listed as follows: <sup>7</sup>

1. Reserve requirements (Regulation D)
2. Maximum interest rates payable on time deposits (Regulation Q)
3. Margin requirements (Regulations T,U)
4. Powers of member banks (Regulations C,F,O)
5. Membership of state institutions in the System (Regulation H)
6. Foreign banking business (Regulations K,M)
7. Interlocking directorates, affiliations, etc. (Regulations L,P,R)
8. Guaranteed loans authorized by the War Department, Navy Department, and Maritime Commission to producers of war materials (Regulation V)
9. Consumer credit regulation (Regulation W)

Through amendments to these regulation and changes in inter-

<sup>7</sup> See *Banking Studies*, *op cit.*, pp. 361-362 and pp. 470-471.

pretations, the Board exercises considerable influence over the operations of the Reserve banks and the member banks and consequently upon the economy as a whole.

**Assembling data for use in policy formulation.** Since the most significant actions of the Board of Governors are concerned with bank credit, the assembling and interpreting of statistical materials for use in the formulation of credit policies demand the continuous attention of the staff of the Board. The Division of Research and Statistics is especially important in supplying the Board with a factual basis for policy making. Other divisions play an important part in supplying information concerning member bank operations and other matters.

The work of the various divisions of the staff of the Board is indicated by the kinds of information that are assembled. Since most of these data are available to the general public in the *Federal Reserve Bulletin*, students of almost all areas of economic activity are furnished a service that enables them to keep abreast of current developments. In addition to the *Federal Reserve Bulletin*, which is a monthly publication, the Board has also published a large volume called *Banking and Monetary Statistics*, which is a veritable storehouse of information, especially for the student of money and banking. A third publication, *Federal Reserve Charts on Bank Credit, Money Rates, and Business*, presents much of the same material in graphical form. A recent issue contains 80 pages of graphs on bank reserves and currency, bank and other credit, government finance, money rates and security markets, and international trade and finance.

Thus the research activities of the staff of the Board of Governors, undertaken primarily to aid the Board in the formulation of credit policies, have aided students of money and banking with more adequate information than might otherwise have been available.

**The determination of Federal Reserve policies.** Since later chapters are devoted to discussions of guides to Federal Reserve policies and instruments of credit policy, attention is directed at present only to the organization of the Federal Reserve System with reference to credit policy. For this purpose Figure 2 is presented which shows the interrelationships of the Board of Governors, the Federal Advisory Council, the Federal Open Market Committee, the Federal

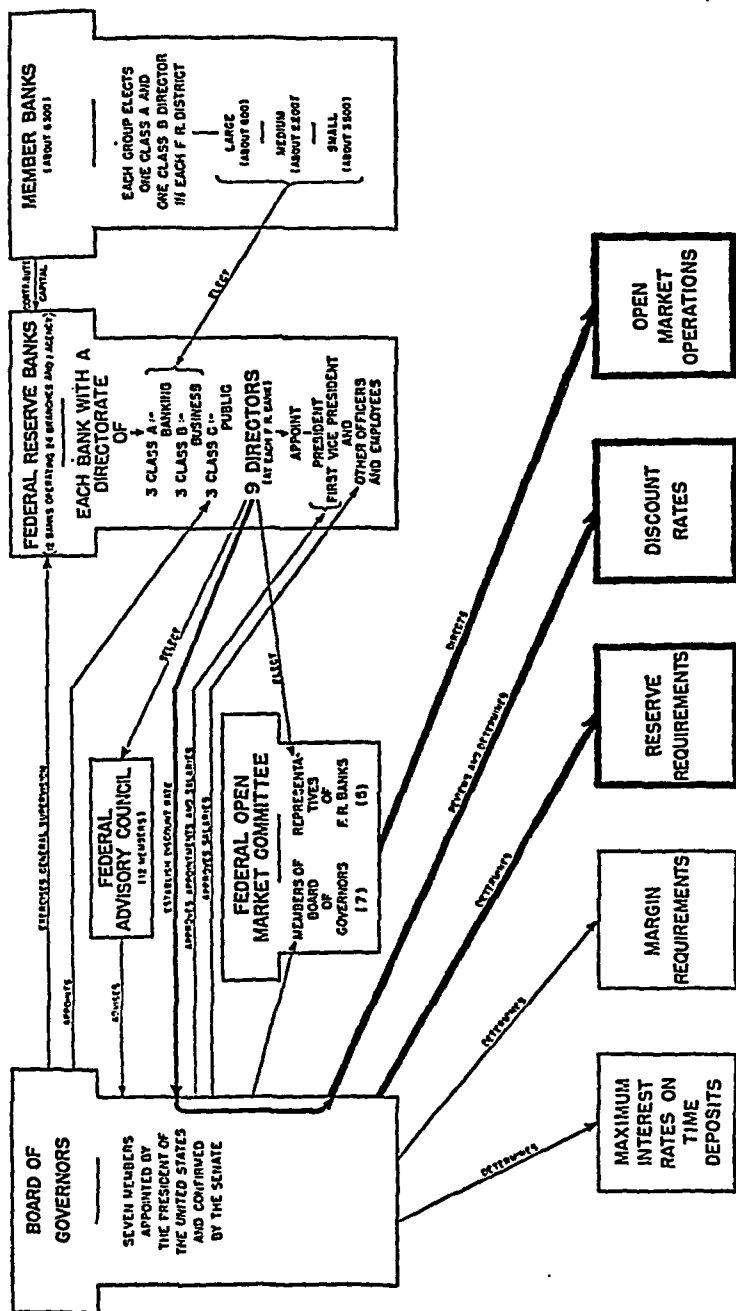


Fig. 2 ORGANIZATION OF FEDERAL RESERVE SYSTEM WITH REFERENCE TO INSTRUMENTS OF CREDIT POLICY  
From *Banking Studies*, Board of Governors, Washington, 1941, p. 376.



Reserve banks, and the member banks in the formulation and execution of credit policies.

### STUDY QUESTIONS

1. "The principal purpose of the Federal Reserve System is to regulate the supply, availability, and cost of money with a view to the maintenance of a high level of employment, stable values, and a rising standard of living." (From *The Federal Reserve System, Its Purposes and Functions*, Board of Governors of the Federal Reserve, 1947, p. 1.) Does this statement indicate that the Federal Reserve System has developed broader objectives than those indicated by its original purposes?
2. Enumerate and explain the operations of a central bank that enable it to expand or contract the money supply of the economy in which it operates.
3. "The purpose of reserve requirements is to protect depositors." Do you think that this is an adequate statement of the purposes of bank reserve requirements?
4. What is meant by the expression "bankers' bank"?
5. "Since the central bank possesses the reserve balances of the member banks, it has the use of these balances to make loans and to acquire investments." Defend or refute this statement.
6. Explain the factor that limits a central bank's power to extend credit.
7. Explain the traditional use of a central bank's open market operations in different phases of the business cycle.
8. Why, in a period of crisis, cannot all banks procure cash by selling their assets in the open market?
9. Enumerate and explain the service functions of a central bank.
10. What is the significance of the fact that a central bank need not be concerned with making profits?
11. Explain the features of the Federal Reserve System concerning the items mentioned below and consider for each a possible alternative method of procedure or organization that might have been adopted:
  - a. its decentralization
  - b. its capital structure
  - c. its management
  - d. the distribution of earnings
12. What significant change has taken place in recent years in the management of the open market operations of the Federal Reserve banks?
13. Compare the advantages and disadvantages of membership in the Federal Reserve System for (a) small village banks and (b) large city banks.

14. Consult the table on the volume of operations of the principal departments of the Federal Reserve banks and determine therefrom the types of activities that have shown the greatest degree of increase between 1941 and 1945.
15. What considerations changed significantly the theory under which Federal Reserve credit is extended? Explain the nature of the change that has been made concerning the extension of Federal Reserve bank credit.
16. "Two decades ago great emphasis was placed on the rediscounting of customers' paper by member banks, while today little emphasis is given it." Explain.
17. "Open market operations create or extinguish reserve funds of the commercial banks." Explain.
18. "The Federal Reserve as it operates at present is the product of constant adaptation to changing conditions. It has to deal today with monetary problems that are far different from those that occasioned its establishment." (From *The Federal Reserve System—Its Purposes and Functions*, p. 111.) Comment on this statement.



*PART THREE*

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THE COMMERCIAL BANKING PROCESS



# CHAPTER

## 7

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### BANKS ESTABLISH CAPITAL ACCOUNTS

**Introduction to Part Three.** In Chapter 4, a brief exposition of the commercial banking process was presented in order that the problems encountered in the history of banking in the United States, especially since the establishment of the Federal Reserve System, might better be understood. We now begin a more detailed description of the commercial banking process. The approach employed in this description might be called the accounting approach. When analyzing financial statements of banks, one discovers that liabilities fall into two categories and assets into three main categories. Liabilities can be classified as (1) liabilities to the owners and (2) liabilities to depositors. The three most important assets are (1) loans and discounts, (2) investments, and (3) reserves, that is, credit balances with reserve depositories. These five liability and asset items are discussed in successive chapters in the order named. Although interbank relationships are not ignored, the problems of the individual bank receive the greater degree of attention. Thereafter, the clearing process is introduced and described as the connecting link between the individual bank and the banking system. The results of the clearing process and the total picture of past operations are exposed to public view in bank statements. Examples of bank statements, with explanatory remarks, are presented in the same chapter which contains a description of the clearing process. The last chapter of this part of the book is devoted to an explanation of the limits of bank credit expansion—this being necessary because analyses of the processes of bank credit expansion without reference

to limits on those processes are presented in other chapters, particularly the chapters on bank loans and investments.

## THE NATURE AND SIGNIFICANCE OF CAPITAL ACCOUNTS

**Capital accounts defined.** It has been shown that a bank makes profits by receiving income from assets in an amount several times as large as its capital accounts. A commercial bank accumulates these assets by four methods, namely (1) by receiving payments on capital stock from its owners, (2) by receiving cash, promissory notes, etc., from persons other than its owners, (3) by reinvesting its earnings, and (4) by engaging, with other banks, in a net expansion of bank credit. The first of these sources is discussed in this chapter; the others constitute the subject matter of later chapters. The capital accounts of a commercial bank consist of its capital stock outstanding, surplus, undivided profits, and proprietorship reserves. In case a bank has outstanding preferred stock, capital notes, and debentures, these, too, make up a part of its total capital accounts.

**The interest of the depositor in capital accounts.** The purpose behind the accumulation of capital funds in the formative period of a banking business is to provide the necessary funds for getting the business started. Thereafter, an increase in the capital accounts of a bank signifies a desire on the part of its owners to expand its operations, presumably with a view to increasing its profit-making possibilities. We are, however, here concerned not with the rate of earnings on capital accounts but with the adequacy of capital accounts in relation to the total claims of depositors. The first observation that must be made concerning the adequacy of capital accounts is that one must look to the asset side of a bank's balance sheet if one is to find anything that protects the depositors. Larger capital accounts protect depositors only if they provide a greater volume of assets that can be liquidated, if necessary, to meet the claims of depositors. In general, the total protection to depositors and other creditors, in the absence of a system of deposit guaranty, is the liquidating value of the bank's assets. A bank with large capital accounts relative to the claims of depositors provides greater protection to depositors than does a bank with smaller capital accounts, assum-

ing equality in the liquidating value of the assets per dollar of assets.

There exists no hard and fast rule governing the proportion of the owners' stake in a bank compared with the depositors' claims against it. Bankers and supervisory authorities have been perplexed for many years with the problem concerning the measurement of the adequacy of the capital accounts of banks. This problem has attracted widespread attention on the part of students of banking and is worthy of careful analysis.

### COMPONENT PARTS OF CAPITAL ACCOUNTS

**Capital-stock requirements.** State and federal laws fix certain minimum requirements for the capital stock of state and national banks respectively. These requirements, it is quite generally admitted, are very low, doubtless too low, in the light of the fact that bank failures have been most prevalent among those banks which have barely met the minimum capital stock requirements. Some states allow establishment of state banks with a capital stock of \$10,000, which amount is too small to promise safety to the depositors or success to the owners. Fortunately, the capital requirements of national banks in the smaller towns have been raised in recent years, a change which represents a reversal of the tendency of earlier years for federal laws to allow the establishment of national banks with low capital requirements in order to meet the competition of state banks.

For national banks the present minimum capital stock requirements are as follows: in villages and towns with a population of 6,000 or less, a capital of \$50,000 is required; in places with a population greater than 6,000 and not exceeding 50,000, a capital of \$100,000 is required; for all larger cities a capital of \$200,000 is required, except in the outlying districts of those cities where the establishment of a national bank with a capital of \$100,000 is permitted, provided the state law allows the establishment there of state banks with a capital of the same amount or less. Prior to 1933 national banks with a capital of \$25,000 were permitted to operate in towns with a population of 3,000 or less.

**Preferred stock.** Under the Emergency Banking Act of March 9,



1933, national banks were permitted to issue preferred stock, whereas prior to that time owners' capital in banks was obtained entirely by the sale of common stock. The occasion for the change was the need for strengthening the capital structures of banks before reopening the banks at the end of the bank holiday of 1933. Since many banks could not readily obtain new capital by the sale of new common stock to their stockholders or to the general public, national banks were empowered to issue preferred stock that was nonassessable and free from double liability. The Reconstruction Finance Corporation, with the required approval of the Secretary of the Treasury, bought this type of stock in large amounts. As explained in the *Annual Report of the Federal Reserve Board* for 1933, these purchases during the early months of the banking crisis were utilized chiefly in connection with bank reorganizations for the purpose of extending essential banking services to communities which otherwise would have lacked such services. In view of this opportunity to obtain the aid of the Reconstruction Finance Corporation, state legislatures hurriedly passed legislation that would permit state banks to issue the same type of stock. Capital notes and debentures were issued where state laws did not permit the issuing of preferred stock free from double liability. The issuance of preferred stock, capital notes, and debentures was also related to the need for strengthening the capital positions of some banks preparatory to their admission to membership in the Federal Reserve Deposit Insurance Corporation.

The extent to which the Reconstruction Finance Corporation participated in increasing the capital funds of banks in 1933 is indicated in the following statement from the *Annual Report of the Federal Reserve Board*:

By the end of the year (1933) applications for additional capital had been received from about 5,000 banks, more than one-third of all active banks. One-third of the applicants were member banks and two-thirds were state banks not members of the Federal Reserve System. By December 31, 1933, the Reconstruction Finance Corporation had made commitments with respect to capital investments in more than 4,500 banks in an amount aggregating \$842,000,000, of which \$264,000,000 had been disbursed.<sup>1</sup>

<sup>1</sup> *Annual Report of the Federal Reserve Board*, 1933.

Table 6 reveals the total capital investment of the Reconstruction Finance Corporation in commercial banks from 1934 to 1946.

TABLE 6

CAPITAL INVESTMENT OF THE RECONSTRUCTION FINANCE CORPORATION IN OPERATING INSURED BANKS, 1934-1946

Date	Number of Banks	Amount
December 31, 1934	5,402	\$822,327,000
December 31, 1935	5,675	866,970,000
December 31, 1936	5,298	643,464,000
December 31, 1937	3,887	547,933,000
December 31, 1938	4,651	524,273,000
December 31, 1939	4,333	477,203,000
June 30, 1946		201,206,000

Source: *Annual Report of the Federal Deposit Insurance Corporation, 1939*, p. 146, and *Report to Congress, Reconstruction Finance Corporation, February 1947*.

In addition to the outstanding amounts of preferred stock, capital notes, and debentures held by the Reconstruction Finance Corporation, this organization has made large loans to other financial institutions, including loans for distribution to depositors of closed banks as well as other loans which do not directly affect the capital structure of commercial banks.

The large decline in preferred stock, capital notes, and debentures held by the Reconstruction Finance Corporation, which decline began in 1936, reveals the desire of banks to reduce these forms of bank liabilities whenever possible. Persons who held stock in a bank prior to the issuance of preferred stock are likely to look upon the holder of the preferred stock as an outsider who might exercise the right to vote the stock in a manner not agreeable to them. Furthermore, the preferred stock is not subject to the same restrictions as are imposed upon common stock. The preferred stockholders are exempt from assessment to restore an impairment of capital, and are entitled to a dividend which is payable when the bank might not be permitted to pay dividends on the common stock. Directors of national banks are not permitted to declare dividends on common stock at any semiannual dividend-paying period, unless they have carried 10 per cent of the net profits of the previous half-year to surplus.

This restriction does not apply to banks with a surplus equal to the amount of the common capital stock, and it does not in any event apply to the preferred stock. Thus, the reasons bank directors wish to retire the preferred stock, capital notes, and debentures as soon as possible are obvious. In fact, the Reconstruction Finance Corporation requires the establishment of reserves out of earnings for retirement of the preferred stock. Banks may also accomplish this by sale of new common stock.

**Surplus and undivided profits.** The Banking Act of 1935 requires a newly organized national bank to begin business with a paid-in surplus of 20 per cent or more of its capital. In most instances this requirement is met by sale of common stock at an amount above par sufficient to provide the necessary contributed surplus and perhaps to absorb necessary organization expenses as well. When a bank with a record of successful operation over a period of years wishes to increase its capitalization by the issuance of new common stock, this stock usually sells at a premium because the issuing bank ordinarily maintains a surplus which gives that stock a book value above its par value.

According to the accounting practice universally adopted by banks, surplus is divided into two accounts—surplus and undivided profits. The surplus account, as distinguished from undivided profits, is usually allowed to remain unchanged over a considerable period of time. It changes by order of the board of directors, while the undivided profits account changes with the more or less regular action of the accountants when they post operating expenses and earnings.

A newly organized bank begins business with a paid-in or contributed surplus, while thereafter, its board of directors may take the following actions with respect to it:

1. When undivided profits are built up by reason of good earnings and a willingness on the part of the owners to allow them to accumulate rather than to increase dividend payments, the directors may order an increase in surplus by a corresponding reduction of undivided profits.

2. When losses are extraordinarily heavy, the directors may charge them to surplus rather than to undivided profits.

The approval of the appropriate federal or state authorities is

required if changes are to be made in the capital stock of a bank. Federal regulations require the assent of the holders of two-thirds of the common stock and the approval of the Comptroller of the Currency before the directors of a national bank may order an increase in the authorized capital stock. These regulations also stipulate that the surplus must be equal to 20 per cent of the authorized capital stock after any change in the total amount is made, whether the new stock is sold for cash or is a result of the declaration of a stock dividend. A reduction in the capital stock of a national bank requires the approval of the Board of Governors of the Federal Reserve System and of the Comptroller of the Currency, and this approval can be given only if the reduction leaves the remaining stock outstanding equal to or greater than the required legal minimum. Whether this approval can be given depends upon the population of the town or city in which the bank is located. Specific approval of the Federal Deposit Insurance Corporation is required for reduction of capital by nonmember insured banks.

Sometimes it is assumed that surplus is represented on the asset side of a bank's financial statement by long-term assets such as bonds. The reason for this assumption is that the capital stock and surplus of a bank represent claims not subject to immediate withdrawal, as is true of demand deposits. As a matter of fact, however, the bond accounts of commercial banks fail to reveal a close correlation with the amount of the surplus of those banks. The history of commercial banking in the United States reveals frequent occasions when bond investments fall as surplus rises, and vice versa.

Although it may be convenient to think of surplus as being invested in part in bank building and equipment, and in part in bonds, it is a mistake to think of surplus and undivided profits as representing any particular form of asset. The capital account, as heretofore defined, is the property of the stockholders and as such represents their claim over or equity in the general assets of the banking corporation. Hence surplus is a valuation account which is determined in part by the amount that the stockholders are willing to pay into this account, and in part by the book valuation of the assets of a bank. The total liabilities of a bank to its creditors plus the capitalization minus the book valuation of the assets of a bank is its surplus. The book valuation of the assets of a bank cannot be accurate

in the sense that it represents the exact liquidating value of those assets. If the book valuation is less than the actual market value of the assets, the surplus and undivided profits are understated. If the book valuation is more than the actual market value of the assets, the creditors of the bank have less protection than is indicated by the total of its surplus and undivided profits.

There is no hard and fast rule by which an accurate valuation of bank assets is determined. The accounting policy of a bank and the appraisal policies of the state and federal bank examiners settle this question. The accounting policy of a bank largely determines such points as what the amount of the depreciation on banking house, furniture, and fixtures shall be. A few banks have placed the book valuation of their banking house and equipment as low as \$1. Others may place a book valuation on this type of asset much greater than its market value in a forced liquidation. In general, good accounting policy requires a conservative book valuation on banking house, furniture, and fixtures.

The dividend policy of a bank also affects the size of its undivided profits and surplus. This policy is partly a matter of law and partly a matter of the discretion of its board of directors. Practice varies greatly with respect to it. The welfare of the depositors is related to the dividend policy of banks because the less the dividends the greater the amount of assets which will be available to meet claims in the event of a forced liquidation of those assets. Good banking policy requires that dividends shall not be paid if their payment jeopardizes the position of the depositors.

Proprietorship reserves. A further matter of policy on the part of bankers and bank examiners relates to the proprietorship reserves of banks. A bank may set aside out of undivided profits a reserve for contingencies, which reserve is a part of the capital account of that bank. A large reserve for contingencies reflects a disposition on the part of the banker to give as much protection as possible to the creditors of his bank. Special reserves may be set up for protection against a decline in the value of certain assets, such as government bonds or other securities. At the present time, a significant reserve account is that which is established to provide for amortization of premiums on government securities. The purpose served by this reserve account is to avoid charging the loss of the premium during

the year the securities mature. Since the commercial banks of the United States hold a very large percentage of their total earning assets in bonds at the present time, these special proprietorship reserves have taken on a greater significance than ever before.

One of the important considerations relating to a bank's surplus, undivided profits, and proprietorship reserves is that the danger of instability in the operation of a banking business is minimized when these items are large. In the event of a period of operating deficits, the bank might find it necessary to assess the stockholders if these items are not adequate. When assessments are necessary, the less wealthy stockholders might find it difficult or impossible to meet them. They might then be forced to sell their stock, possibly at a loss, which would result in readjustment in the control of the bank. Hence the present body of stockholders, as well as depositors, is interested in the maintenance of an adequate capital account, which includes the proprietorship reserves, as well as undivided profits and surplus.

Another special proprietorship reserve, which has arisen from the recent problems of commercial banking in the United States, is the special reserve for the retirement of preferred stock. Attention has been called to the nature of this preferred stock and the circumstances surrounding its flotation. The desire on the part of the shareholders to rid themselves of the burden of supporting this form of capitalization has led the board of directors of many banks to set up a reserve account for its retirement.

**Trend in the component parts of capital accounts.** In recent years nearly all the increase in bank capital must be attributed to the retention of earnings. Computations of the Federal Deposit Insurance Corporation, reproduced in Table 7, show that capital stock made up 35 per cent of total capital accounts of all insured commercial banks at the end of 1945, compared with 42 per cent four years earlier. This table also reveals the fact that the rise of \$368 million in the volume of common stock was partly offset by the retirement of \$185 million of preferred stock and capital notes and debentures.

That banks have adopted conservative dividend policies is revealed by the additions to surplus, undivided profits, and reserve accounts. From the end of 1941 to the end of 1945, surplus accounts

of insured banks increased \$1,097,000,000, undivided profits increased \$397,000,000, and reserves (for contingencies, etc.) increased \$150,000,000. During the same period, dividends paid were \$228 million, \$233 million, \$253 million, and \$274 million for 1942, 1943, 1944, and 1945 respectively. Earnings available for stockholders for these years were: \$441 million, \$638 million, \$751 million, and \$906 million.

**Double liability on bank stock.** The common stock of banks was subject to double liability under federal law in the case of national banks, and was generally applied by state law to state banks as well, until 1933 when a series of modifications began. Double liability subjected the stockholders of banks to assessments, not to exceed the par value of their stock, in case of bank failures wherein the liquidating value of the assets was not sufficient to meet the claims of depositors. In addition, banking laws generally required that stockholders pay an amount sufficient to cover the deficiency in case a bank suffers losses that reduce the stockholders' equity below the par value of the capital stock. These laws proved to be unsatisfactory methods of protecting the depositors' claims against banks. One reason for the dissatisfaction with these laws was that they did not provide uniform protection; that is, the same degree of protection was not afforded by the deposits in different banks, such as is made available by a system of federal deposit insurance. Another objection is that a handicap is placed on the salability of new bank stock by the double liability feature. These and other considerations led the Congress, in 1933, to provide in the Emergency Banking Act that new stock issues of national banks should be freed from double liability. A more important change was made in 1937 when an amendment to national banking laws provided that national banks might terminate double liability on all stock on or after July 1, 1937, by publication of six months' notice. Many state legislatures similarly terminated double liability on the stock of state banks. In some states, the double liability requirement, since it was written into state constitutions, necessitated for its termination the passage of constitutional amendments. Pending the passage of these laws and constitutional amendments, Congress reduced the disadvantage of the holders of the stocks of most state banks when, on May 28, 1938, it amended the Federal Reserve Act to permit the Federal Deposit

Insurance Corporation to waive any claim it might have against the stockholders of closed banks for which it acts as receiver.

TABLE 7

CHANGE IN ACCOUNTS OF INSURED COMMERCIAL BANKS \*  
(Amounts in millions of dollars)

Type of capital account	Dec. 31, 1945	Dec. 30, 1944	Dec. 31, 1941	Percentage distribution		
				Dec. 31, 1945	Dec. 30, 1944	Dec. 31, 1941
Total	\$8,672	\$7,990	\$6,845	100.0%	100.0%	100.0%
Capital stock, notes, and debentures—total	3,033	2,913	2,850	35.0	36.4	41.6
Common stock	2,838	2,660	2,470	32.7	33.3	36.0
Preferred stock	152	202	306	1.8	2.5	4.5
Capital notes and debentures	43	50	74	0.5	0.6	1.1
Surplus	3,784	3,402	2,687	43.6	42.6	39.3
Undivided profits	1,293	1,169	896	14.9	14.7	13.1
Reserves	562	506	412	6.5	6.3	6.0

\*Annual Report of the Federal Deposit Insurance Corporation, 1945, p. 47.

## TRENDS IN CAPITAL-ACCOUNTS RATIOS

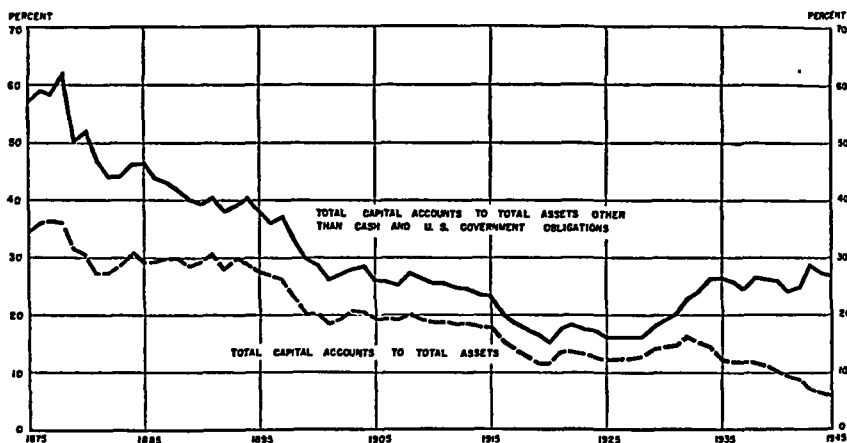
Rise in ratio of deposits to capital accounts. Bank capital in relation to deposits has been declining over a long period of time. Perhaps a better statement that conveys the same meaning is to say that deposits have been rising in relation to bank capital over a long period of time. In the early period of American banking history the capital accounts of many banks were about as large as their deposit and note liabilities combined. It must be remembered, however, that bank capital in those days was frequently not wholly paid in. If, for example, a bank had total capital accounts of one million dollars, only one-fifth of which was paid in or earned, and had deposits of one million dollars, the ratio of deposits to capital accounts might rightly be said to be 5 to 1, rather than 1 to 1.



The Federal Reserve Bank of Philadelphia points out in a study of bank capital ratios that "at the end of 1866 the proportion of capital accounts to deposit liabilities of national banks was 72%, but by 1900 the ratio had fallen to 28%. This decline continued from a ratio of 25% at the outbreak of the first World War to 12% at the beginning of the present war, and had reached a low of 6.3% by the end of 1944."<sup>2</sup>

Chart 1

RATIOS OF TOTAL CAPITAL ACCOUNTS TO TOTAL ASSETS  
AND TO TOTAL ASSETS OTHER THAN CASH AND  
U. S. GOVERNMENT OBLIGATIONS  
ALL COMMERCIAL BANKS, 1875-1945



**Total assets and capital accounts.** Another financial statement ratio of importance is that which reveals the quantitative relationship between capital accounts and total assets. If the rate of growth of the assets of banks should be greater than the rate of growth of their capital accounts, the stockholders' equity relative to total assets would decline. Table 8 shows that total capital accounts as a percentage of total assets of insured commercial banks declined sharply from 1934 to 1946, 13.24 per cent in the former year to 5.5 per cent in the latter year. Chart 1, which extends the picture back to 1875, reveals the long-time trend to be an almost continuous decline in the ratio of total capital accounts to total assets from 1875 to 1945.

<sup>2</sup> *Monthly Review of the Federal Reserve Bank of Philadelphia*, September 1945.

Chart 1 and Table 8 show, however, that in recent years the percentage of total capital accounts to *assets other than United States Government obligations and cash* increased from 1929 to 1944. This is attributable to the low volume of bank loans while the capital accounts showed improvement, due in large part to the retention of earnings from a rapidly growing volume of investment holdings. In 1946, however, the trend reversed itself, owing to a great increase in bank loans while bank holdings of government securities declined. Since, in 1947, bank loans increased \$3.4 billion and bank investments decreased \$4.2 billion, while capital accounts increased only \$600 million, the percentage of capital accounts to assets other than government securities continued to decline.

TABLE 8

CAPITAL RATIOS OF INSURED COMMERCIAL BANKS  
YEAR-END CALL DATES, 1934-1946

Year	Total capital accounts as a percentage of—	
	Total assets	Assets other than cash and U. S. Government obligations
1946	6.4%	23.4%
1945	5.5	25.5
1944	5.94	27.58
1943	6.64	28.28
1942	7.39	25.99
1941	8.91	22.82
1940	9.44	24.38
1939	10.33	25.38
1938	11.33	25.62
1937	11.81	25.00
1936	11.26	24.60
1935	12.19	26.09
1934	13.24	26.69

Source: *Annual Reports of the Federal Deposit Insurance Corporation*, 1945 and 1946.

Capital ratios by size of banks. Since capital requirements are low for small-town banks and since many small banks failed in the two decades before 1940, the impression was gained that small banks had failed because of their weak capital positions. Although this impression is not altogether wrong, it is nevertheless true that small banks

generally have higher ratios to total assets than the large banks. In its annual report for 1944, the Federal Deposit Insurance Corporation reported that 17 per cent of 12,983 banks that were examined had adjusted capital accounts equal to more than 10 per cent of the appraised value of their assets and that of the 241 smallest banks 76 per cent had capital ratio of over 10 per cent. Only 4 per cent of the 249 largest banks had capital ratios of over 10 per cent and nearly half had ratios of less than 5 per cent.<sup>3</sup> These figures, and others, are set forth in Table 9.

TABLE 9

DISTRIBUTION OF INSURED COMMERCIAL BANKS EXAMINED IN 1944 ACCORDING TO ADJUSTED CAPITAL RATIO AND BY AMOUNT OF DEPOSITS \*

Size of bank	All banks	Banks with adjusted capital accounts per \$100 of appraised value of assets of				
		\$0.01 to \$4.99	\$5.00 to \$7.49	\$7.50 to \$9.99	\$10.00 to \$14.99	\$15.00 or more
All banks	12,983	2,108	5,414	3,194	1,839	428
Banks with deposits of—						
\$250,000 or less	241	4	18	37	114	68
\$250,000 to \$500,000	1,297	31	260	512	394	100
\$500,000 to \$1,000,000	2,888	195	1,279	902	434	78
\$1,000,000 to \$2,000,000	3,423	563	1,598	765	416	81
\$2,000,000 to \$5,000,000	2,950	650	1,299	613	321	67
\$5,000,000 to \$10,000,000	1,101	273	515	194	100	19
\$10,000,000 to \$50,000,000	834	276	351	142	53	12
More than \$50,000,000	249	116	94	29	7	3

\*Annual Report of the Federal Deposit Insurance Corporation, 1944, p. 44.

## THE ADEQUACY OF CAPITAL ACCOUNTS

Attention has been called to the fact that the adequacy of the capital accounts of commercial banks cannot rightly be analyzed wholly in terms of the size of those accounts. It is possible that the depositors of one bank with a low ratio of deposits to capital ac-

<sup>3</sup> Annual Report of the Federal Deposit Insurance Corporation for the year ending December 31, 1944, pp. 43-44.

counts may be less well protected than the depositors of another bank with a high ratio between these items. This may be true because the second bank has assets of higher quality than the first bank. Assuming that the assets of the two banks are equal in quality, the depositors of the second bank are less well protected. This is true because upon liquidation of a bank the claims of the depositors are given preference over those of the owners.

Since the claims of the depositors of banks at the present time are larger in proportion to the total liabilities of banks than was the case in earlier years, it is reasonable to expect that banks in general must be required to maintain the highest possible quality of assets. Two considerations require the maintenance of high-quality assets to support the deposit liability of banks. The first of these is the repeal of the federal law and many state laws which imposed double liability on the stockholders of banks. These laws were designed to offer protection to the depositors and to provide an incentive to good bank management. It is to be admitted that they did not provide the degree of protection that it was expected they would supply. They were invoked mostly in depression periods when stockholders could not meet the burden of double liability and when collections were slow and uncertain. Regulations that assure good asset management provide greater protection to depositors than the double liability of stockholders.

The second consideration which justifies the insistence upon high-quality assets is that depositors in many banks today are paying high service charges on their checking accounts. It would appear entirely unjustifiable for a bank to impose high service charges upon its depositors and at the same time to place the bulk of its funds in high-yield, low-quality assets. In effect, the service charges which depositors pay are payments for an assurance that high-quality assets support the deposit liabilities of the banks which impose them.

In the last analysis, the adequacy of the capital of the commercial banks depends upon the wisdom of management, the quality of assets, and the economic conditions of the country as a whole, as well as upon the volume of their capital accounts.

Quality of assets and adequacy of capital. A commercial bank must be prepared to meet the depositors' claims on demand. If, there-

fore, a bank does not possess sufficient cash and assets that can readily be turned into cash with little or no loss, it may be forced to assume losses that will wipe out or seriously impair its capital. Whether or not this might happen depends on the proportion between the volume of assets that can be converted into cash without loss and the volume of assets that can be liquidated only at a loss.

Sometimes assets that can be converted into cash without loss are called risk-free assets. The most severe test to determine whether an asset is risk-free is met in depression periods when there are few prospective buyers for bank assets and they will purchase them only at a discount over their previous market prices. A further consideration is that these prospective buyers are depositors at banks, who will withdraw funds to make their purchases. Although an individual bank can improve its cash position by selling some of its assets in the open market, the cash position of the banking system is not improved by this action. Only by a sale of bank assets to cash-creating institutions, such as the Federal Reserve banks, can the cash position of the banking system be improved.

One of the most significant developments in banking in recent decades is the improved facilities by which banks can shift assets to the Federal Reserve banks, whereas in earlier depression years banks were forced to dump assets on the open market in competition with each other to gain cash to meet the demands for cash by depositors. Until these facilities for creating new money by the shifting of bank assets to the Federal Reserve banks were made more readily available, a continuous deterioration of the cash position of banks was likely to take place whenever a widespread preference for cash instead of deposits set in. Some liquidation was likely to lead to panicky liquidation of all kinds of assets under these conditions, and the capital position of banks might as a consequence be greatly weakened through losses on their loans and investments. At present, banks can gain cash or reserves by using government securities, at full value, as collateral for Federal Reserve credit, thereby increasing the money supply and obviating the necessity for attempting to gain cash by selling assets in the open market. Obviously, widespread efforts to gain cash from a constant money supply results in lower prices on the assets offered in exchange for cash, while such exchanges in the face of an increased

money supply minimizes the danger of severely depressed prices for the assets offered in exchange for cash. Exchanging assets for cash at the Federal Reserve banks supports the market in two ways, (1) by increasing the money supply, and (2) by reducing the potential demand for cash.

### BANK HOLDINGS OF U. S. GOVERNMENT OBLIGATIONS

Attention has been called to the fact that one of the most important sources of liquidity of bank assets in the face of widespread demand on the part of depositors for cash is the convertibility of those assets into cash at the Federal Reserve banks through discounting or borrowing. This factor, it was said, must be considered when rendering judgment on the adequacy of bank capital. If banks hold large amounts of assets that can be liquidated with little or no loss, such assets better serve to support the deposits than a large volume of assets that likely can be liquidated only at a loss. The chief type of bank asset that is relatively risk-free is government securities, especially those of short maturities.

On June 30, 1945, the insured banks had total deposits of \$134,245 million, including \$12,401 million of interbank deposits. In support of these deposit liabilities, these banks held the following liquid assets, in millions of dollars: reserves with Federal Reserve banks, 14,806; cash in vault, 1,474; United States Government obligations, 82,401. Excluding interbank deposits, the insured banks possessed cash and liquid assets in excess of 80 per cent of their deposit liabilities. If the liquidating value of other assets should decline in value by 25 per cent, banks would have sufficient funds to meet all their deposit liabilities.

These considerations do not erase the fact that a few banks are in a weak position and need to take steps to establish stronger capital accounts. In its annual reports the Federal Deposit Insurance Corporation issues frequent warnings that some banks have fixed and substandard assets in excess of net sound capital. In its report for 1943, the F.D.I.C. says:

Total capital of the insured commercial banks increased by \$397 million during 1943, reflecting the highest profits recorded since organization of

the Federal Deposit Insurance Corporation. Notwithstanding this increase and the continued improvement in quality of assets generally, nearly 400 banks had fixed and substandard assets in excess of net sound capital at the time of examination in 1943. Of these banks, 43 held fixed and substandard assets in amounts that were more than double their net sound capital.<sup>4</sup>

## DEFINITIONS

Some definitions used by the F.D.I.C. in its discussions of the capital accounts of banks, as in the statement cited, are necessary if one is to derive the full meanings intended. The definitions given below are selected from the explanatory notes in the Annual Report for 1943, and are in some cases simplified: <sup>5</sup>

*Book Value*, applied to total assets, loans, securities, and fixed and miscellaneous assets, refers to the values (net, after deduction of valuation allowances and, in the case of securities, of premium allowances) carried by each bank on its books at the time of examination.

*Appraised Value* of total assets, loans, securities, and fixed and miscellaneous assets represents the value of assets as determined by the examiners.

*Examiners' Deductions from Assets* represent for each group of assets the amount by which the examiners' evaluation of each bank's assets is less than the value carried by the bank on its books.

*Examiners' Deductions (Net) From Total Capital Accounts* represent the amount by which the examiners' evaluation of each bank's total capital accounts (net worth) is less than the value carried by the bank on its books.

*Substandard*, applied to total assets, loans, securities, and fixed and miscellaneous assets, represents the appraised value of all assets believed by the examiner to involve a substantial or unreasonable degree of risk, and hence to be undesirable or hazardous for bank investment.

*Total Capital Accounts, or Book Value of Capital Accounts*, refers to the "net worth" or equity of stockholders (including holders of

<sup>4</sup> *Annual Report of the Federal Deposit Insurance Corporation, 1943*, p. 34.

<sup>5</sup> *Annual Report of the Federal Deposit Insurance Corporation, 1943*, pp. 63-64.

capital notes and debentures) in each bank as carried by the bank on its books at the time of examination.

*Net Sound Capital* represents the appraised value of assets less all determinable liabilities. It is also derived by subtracting examiners' deductions (net) from total capital accounts, and is the examiners' evaluation of the net worth or equity of stockholders in each bank.

## BANK CAPITAL AND ASSET LIQUIDITY

The decline in the ratio of bank capital to the total assets of banks has given rise to argumentation over the adequacy of bank capital. One side of the argument is that the decline in the capital ratio has been counterbalanced by a rise in the liquidity of bank assets. It is pointed out that the decline in this ratio is attributable largely to an expansion in bank holdings of government securities that can readily be converted into cash. The other side of the argument is that bank assets, no matter how high their quality, are susceptible to rapid deterioration and that "even with the most careful supervision there remains an irreducible minimum of uncertainty and bank capital must be provided as a protection against this uncertainty."<sup>6</sup>

During the first few years of its existence, the Federal Deposit Insurance Corporation frequently issued warnings against a deposits-capital ratio in excess of 10 to 1. In 1945, the Corporation expressed its attitude as follows:

Enforcement of the traditional 10 per cent overall capital ratio would not be wise at this time because the increase in bank assets over the past few years has occurred largely in the non-risk category. Furthermore, there is little likelihood that loans in the next few years will resume their prewar relationship to total assets. A standard substantially below the 10 per cent ratio would for the time being seem to be justified. In connection with the establishment of such a standard, the present average ratio of capital to total assets of all commercial banks of between 5 and 6 per cent seems relevant.<sup>7</sup>

The Federal Deposit Insurance Corporation has not as yet established a formula by which the adequacy of the capital position of insured banks might be judged. It has said that the ratio of capital

<sup>6</sup> *Annual Report of the Federal Deposit Insurance Corporation, 1945*, p. 9.

<sup>7</sup> *Ibid.*, p. 10.



to assets other than cash and government securities is not an appropriate standard for the supervision of individual banks. It takes this position for the following reasons.<sup>8</sup> (1) This ratio is subject to unpredictable fluctuations and for this reason it does not furnish a satisfactory standard for bank supervision, which requires a uniform rule; (2) it places a premium upon ultraconservative banking, to the extent that banks under it might be encouraged to freeze their assets in cash and government securities to the detriment of their customers; (3) it might, as a consequence of banks being encouraged to freeze their resources in cash and government securities, force the government to assume responsibility for financing private enterprise; and (4) assets other than cash and government securities vary greatly in quality, since some loans are guaranteed by federal agencies, and the risk factor in others is unmeasurable.

The present situation with respect to the capital position of banks is that no single formula is used by supervisory authorities to determine the adequacy of the capital accounts of an individual bank. This being the case, each bank must settle this question, looking to its long-run self-interest in the matter. One supervisory authority has expressed the view that the self-interest of each banker would require him to maintain capital accounts that are adequate to absorb losses, since the banker and his associate shareholders, in the event of the failure of their bank, lose everything before the Federal Deposit Insurance Corporation loses anything. Moreover, a bank cannot adequately and profitably serve the legitimate credit needs of the community without adequate capital.<sup>9</sup>

### STUDY QUESTIONS

1. "The depositors of a bank with a low ratio of deposits to capital accounts are better protected than those of a bank with a high ratio between these items." Do you agree? If not, what modifications would you make in this statement?
2. "The capital accounts of a bank, since they are liability items, afford no protection to depositors." Explain.
3. By what methods can a bank build up its capital accounts?

<sup>8</sup> *Ibid.*, p. 9.

<sup>9</sup> Sailor, Vance L., Chief, Division of Examination, Federal Deposit Insurance Corporation, in an unpublished address before the School of Banking at the University of Wisconsin, June 6, 1947.

4. Is the size of the city in which a bank is located a good standard by which to determine the amount of capital stock required? If not, what other standard might be used?
5. Concerning the issuance of preferred stocks by banks, explain
  - a. the circumstances under which this type of stock was issued,
  - b. the reasons for the desire on the part of other shareholders to retire it as soon as possible, and
  - c. alternative methods used by banks for its retirement.
6. Define *surplus* and *undivided profits*, and the means by which these items of a bank's financial statement might be increased.
7. "A bank may safely invest its capital accounts in long-term bonds since they are not subject to withdrawal on demand as are demand deposits." Do you agree? Explain.
8. Differentiate *proprietorship reserves* and reserve balances on deposit with a reserve depository, such as a Federal Reserve bank. Include in your explanations the different purposes for which proprietorship reserves are maintained.
9. For what purpose was double liability on bank stock required and for what reasons has this requirement largely been abandoned?
10. A century ago many banks had a ratio of 2 to 1 between deposits and capital funds; later, the deposits-capital ratio of the same banks was 10 to 1. If in the earlier years the banks' capital was only one-fifth paid in, was the ratio of deposits to paid-in capital much, if any, lower than in the later years?
11. Do small banks have greater capital accounts relative to deposits than the larger banks?
12. "A ratio of 20 to 1 between deposits and capital accounts of a bank at the present time is probably no more dangerous than a ratio of 10 to 1 between the same items for the same bank twenty years ago." Do you agree? Explain.
13. Present arguments for and against the imposition of a rule that would force each bank to maintain capital accounts no less than a certain percentage of capital to risk assets.

# CHAPTER

## 8

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### BANKS INCUR DEPOSIT LIABILITIES

**Introduction.** From at least three points of view, deposits are the most important type of liabilities incurred by banks. They are important to the owners of banks because in the process by which banks incur deposit liabilities they gain earning assets. To depositors, deposit credits are important because they provide a convenient means for making payments. To the economy as a whole, bank deposits are important because they are a very large part of the nation's money supply.

Certain questions flow from these observations on the importance of deposits which require explanatory answers: What motivates people to acquire deposit credits at banks? By what processes are bank deposits created, and what factors cause them to rise and fall in volume? What information is available concerning the ownership of bank deposits, and what is the significance of changes in their ownership? By what means and to what extent do regulations and agencies of the government protect depositors against loss of their deposit credits? Answers to these questions are attempted in this chapter. The nature of the earning assets of banks, acquired as they incur deposit liabilities, and problems connected with the acquisitions of earning assets, constitute the subject matter of the next two chapters.

#### MOTIVES OF DEPOSITORS

In our economic system, the people can choose to hold money either in the form of currency or in the form of deposit credits with banks. Among the motives which prompt people to acquire and hold

deposit credits at banks rather than currency, the following five motives are the most important.

First, the depositor receives a convenient means of payment. If a person could as conveniently make payments with bank notes or Treasury currency, he would, presumably, use them instead of deposit currency, that is, bank deposits against which checks can be drawn. One of the convenient uses of checks is the payment of sums in terms of dollars and cents by means of a single instrument, whereas payment by legal-tender notes or subsidiary currency more often than not requires more than one instrument. Moreover, the use of checks often obviates the expense and inconvenience of counting coins or bank and government notes, and the expense of preparation for shipment, insurance, and the like. Another convenience is the canceled check which serves as a receipt for the payment, often making unnecessary an additional instrument. This motive for making deposits, namely, the convenience of making payments by means of checks, is a very important element in explaining the fact that checks are used to make more than 90 per cent of the total payments in the United States in most years.

Second, the depositor may receive many services from his bank for a fee. These services are rendered by the transfer and collection departments, the safety deposit department, the bond department, as well as other departments, and by the general personnel of the bank.

Third, in return for the maintenance of a credit balance, the depositor receives a "line of credit" from a bank. This exchange does not rest upon any legal foundation, but rather upon an implied responsibility on the part of a bank to accommodate the depositor with loans of the type the bank can provide when applications for them are made. By reason of this implied responsibility, which banks are usually pleased to assume, a close personal relationship usually exists between the depositor and his bank. This relationship between the borrower and the bank often creates a feeling of obligation on the part of the borrower to continue getting needed loans from his local bank, even though cheaper credit accommodations might for a time be obtained elsewhere. This attitude does not arise from altruistic motives, but rather from a realization that a dependable line of credit is more valuable than an undependable one, despite the fact:

that the latter alternative may temporarily be more attractive from the standpoint of costs.

Fourth, the depositor may receive interest on his deposits. This service applied formerly to both demand and time deposits. An amendment to the Federal Reserve Act, however, prohibits member banks from paying interest directly or indirectly on demand deposits. Thus, receipt of interest has become a motive for making time deposits only. Time deposits appeal especially to small depositors who are unwilling to supervise or unable to invest their funds in securities, real estate, etc. Some individuals and organizations make time deposits of large sums which would otherwise lie idle. The tendency in recent years has been toward payment of lower rates on time deposits as a result of the very low yield that banks receive on most of their earning assets.

Fifth, the depositors' monies are ordinarily safer when kept in the form of bank deposits than in the form of coins and currency in their personal possession. Since bank deposits are convertible into coins or currency, the depositors must have preferred, for various reasons, to have kept their money in the form of claims against the banks. One of these motives is safekeeping.

## THE CREATION OF DEPOSIT CREDIT

**The process of deposit creation.** A somewhat misleading picture of commercial banking operations is presented when it is said that the owners of commercial banks contribute the original capital funds, invite other persons to deposit funds with them, and then convert the total of the funds derived from these sources into earning assets. The inadequacy of this treatment of the subject lies in its failure to call attention to the fact that the banking process creates deposit credit.

If commercial banks merely received monies from customers for safekeeping or for investment, the phenomenon of bank credit expansion and contraction would not exist. That it does exist and that it is a phenomenon of great importance in the economy cannot be denied.

The uniqueness of the operations of a commercial bank is derived from its membership in a banking system which enables it, in a

period of general expansion, to create deposit credit. The process by which this can be done may be briefly described as follows: One of the commercial banks extends a loan to a customer, the bank's reserve position being adequate to permit it to do so. The customer receives a deposit credit in exchange for his promissory note to the amount of the proceeds of the loan. He draws checks against that deposit credit in favor of a person or a business firm which deposits these checks with other banks. These banks are then able to expand loans to their customers, who, in turn, will draw checks in favor of depositors of still other banks. If the process of bank credit expansion is widespread throughout the banking system, each of the banks in the system is likely to receive checks drawn against the deposits created by the loans of other banks, leaving each bank in a position to create more deposit currency through further extension of loans.

In order to clarify this process, let us assume that a Cincinnati bank makes a loan to a customer and that this bank is able to do so by reason of the fact that it has a greater amount of reserves than regulations require. The customer to whom this loan is granted draws checks against the deposit credit he receives, in favor of business firms in Chicago, Pittsburgh, Cleveland, and New York. As these checks return to Cincinnati through the regular clearing channels, they reduce the amount of the excess reserves of the bank against which they are drawn, unless the customers of the banks in the other financial centers are drawing checks in favor of Cincinnati firms who deposit them in the Cincinnati bank. When the banks of all these financial centers are making loans in about the same volume, their customers are likely to be drawing checks in favor of each other for about the same amounts. In this event, the banks of each center will not be distressed by persistent adverse clearing house balances. Each bank will be in a position to expand its loans to customers, so long as it maintains the required reserve balances with the reserve depository. The limitations on the processes of credit expansion are explained in some detail in Chapter 14.

**Primary and derivative deposits.** The primary deposits are the result of the receipt of cash exchanged at banks for deposit credits. Derivative deposits are created when banks receive assets other than cash in exchange for deposit credits.

Sometimes it is said that the primary deposits of a bank include checks drawn on other banks. This may be true for an individual bank when it is gaining deposits at the expense of other banks, but it cannot be true for the banking system as a whole. Over a certain period of time, when the banking system as a whole is gaining deposits, the increase in total deposits must be due to one or more of the following factors: (1) government purchase of gold and silver; (2) a decrease in money in circulation outside banks; and (3) an increase in bank credit. The banking system gains primary deposits from the first two factors; it gains derivative deposits from the third factor.

Perhaps the difference between primary and derivative deposits can best be explained if we assume that only one big bank is in existence. This one big bank can receive, over a period of time, greater primary deposits only if a greater amount of cash is created by the money-issuing authorities in that period of time and is deposited in the bank, or if cash previously created and hoarded is brought out of hoards and exchanged for deposit credits. This one big bank cannot count checks drawn on other banks as a part of its primary deposits because there are, according to our assumption, no other banks against which they can be drawn. Hence a larger volume of deposits in the absence of a larger volume of cash offered in exchange for deposits must be attributed to an exchange of deposit credit for things other than cash. These other things for which deposit credits are exchanged are such things as securities and the promissory notes of borrowers.

The primary deposits of a banking system may be increased by additions to the money supply received from (1) the government through its power to coin money and to issue Treasury currency, (2) the central bank through its power to issue bank notes, and (3) depositors who present hoarded cash for deposit credit. The derivative deposits of the banking system, as has been explained, may be increased through the process of bank credit expansion. Obviously, in the absence of any change in the primary or derivative deposits of the banking system, changes in the deposits of any individual bank are derived from a diminution of the deposits of other banks in the system.

## THE VOLUME OF DEPOSIT CREDIT

Deposit credit, often called deposit currency, is used in greater volume in the United States than any other means of payment. In other words, it is the most important element in the total supply of the media of exchange by means of which transactions of all kinds are consummated. Whether it is a causal factor or a resultant factor in business cycles, it furnishes the chief monetary element in the ups and downs of the level of business activity. The student of monetary and banking phenomena should, therefore, become acquainted with the available data on the volume of deposit credit and the factors of increase and decrease in its volume.

**Factors of increase in bank deposits.** The most important factors that may, during any period of time, cause an increase in bank deposits are:

1. An increase in bank holdings of government securities and other securities
2. An increase in bank loans to customers
3. An increase in Federal Reserve bank credit
4. A decrease in currency outside banks or an increase in Treasury currency
5. Government purchases of gold

**Effect of security issues on bank deposits.** When a business firm or a branch of government floats a bond issue, and banks buy these bonds, bank credit is expanded. Let us say that the purpose of the bond issue is to provide funds for private or public capital expenditures. The proceeds of the bond issue momentarily are held as the deposit credits of the issuer. Later, these deposits are expended for building materials, wage payments, etc., and when so expended, become money in circulation and bank deposits under the control of the recipients of those payments. To be sure, this factor of increase in bank deposits may, in the same period of time, be offset by other factors tending to decrease them.

The most important factor in the creation of deposit credit in recent years has been bank purchases of government securities. Briefly, the process by which government financing has created deposit credit is as follows: The Treasury announces a security issue



and banks subscribe to it. The Treasury receives deposit credit at the purchasing banks to the extent of the proceeds of the sale, thereby increasing total bank deposits. The Treasurer then draws checks against these deposit credits (having transferred the credits to the Federal Reserve banks before doing so) in favor of individuals and firms with whom the government has made commitments. When these individuals and firms deposit these checks, a shift from government deposits to deposits of individuals and firms is effected.

Government expenditures in excess of tax receipts were doubtless the chief originating factors which gave rise to the tremendous increase in the volume of bank deposits from 1933 to 1945. If in any one of these years the government expended, say, forty billion dollars in excess of tax collections, an increase in the liquid asset holdings of the public of the same amount must be accounted for. To the extent that banks purchased government securities, the public's liquid assets in the form of bank deposits increased. To the extent that the public received checks that were cashed at banks, which cash or currency was retained in circulation by the general public, the public's holdings of liquid assets in the form of cash increased. To the extent that the public purchased government securities and held them, the public's holdings of liquid assets in the form of government securities increased. In these ways, the forty billion dollars of Treasury deficits can be accounted for.

The creation of deposit credit by means of bank purchases of securities is not limited to the securities of the federal government. In the 1920's it is estimated that states, municipalities, and other political subdivisions went into debt, mostly long term, at the rate of about a billion dollars a year. Deposit credit was created to the extent that banks purchased bonds or other securities from these branches of government, which deposits were shifted to the general public as the sellers expended the proceeds of the bond sales.

Bank holdings of government securities and other securities might increase, not only by their purchase directly from the issuer, but also by their purchase from individuals who wish to liquidate their holdings. When banks so exchange deposit credit for securities, there might occur a "delayed action" expansion of bank credit. Perhaps this phenomenon can best be explained by means of an illustration. Let us assume that an individual purchased a government bond in

1942 and that he drew upon deposit credit with a bank to pay for it, and that four years later he sold that bond to a bank. In this case, the sale of the bond to the bank, which would have created bank credit in 1942 had it been sold to the bank by the issuer, becomes a factor of increase in bank credit in 1946. It should be noted that these transactions resulted in an extension of individual credit to the government in 1942 on the basis of which the government expanded its activities in that year and that later (in 1946) the individual exchanged his claim against the government for bank credit. Since the expansion in government capital expenditures occurred in the earlier year, this illustration is not meant to convey the impression that expansion in the economic system was postponed from the earlier to the later year.

The significant factor involved in the sale of securities by the government or by business firms to individuals is that their purchase generally involves a transfer of funds from uses with lesser velocity to uses with greater velocity. This observation can probably be most clearly demonstrated when one considers the dishoarding of money for the purchase of securities. In this case the money previously hoarded that had a velocity of zero is transferred to uses with a high velocity. In other cases the contrasting degrees of velocity are not so apparent.

**Effect of bank loans on bank deposits.** An increase in loans by banks to their customers, during a period of general expansion, increases bank deposits in the same manner as does a general increase in their holdings of government securities and other securities. Again, let us take a hypothetical example of a loan by a bank to an individual or business firm. In most cases, the customer receives the proceeds of the loan in the form of deposit credit. The immediate impact of a loan, then, is to increase the deposit liabilities of the bank that extends the loan. Since, however, the borrower does not borrow from his bank with the intent to leave his newly created deposit credit with his bank, he draws checks against it in favor of individuals or business firms who deposit those checks in other banks. The deposits of the banking system are thereby increased, unless other factors operating in the economy offset the operation of the factor under consideration.

**Effect of Federal Reserve credit on bank deposits.** Member bank reserve balances are a lever by which the Reserve banks effect a re-

tardation or stimulation of the growth of deposits. The Reserve banks can retard the creation of deposits by requiring (by act of the Board of Governors) that greater reserve balances be maintained, unless statutory power in this respect has been exhausted. Open market selling of securities by the Reserve banks also tends to impound funds that might otherwise be used as a base for bank credit expansion. Conversely, lowering reserve requirements releases funds for use in bank loan expansion. Open market buying by the Reserve banks from nonbank investors increases both bank deposits and bank reserves.

During World War II, when bank deposits increased greatly, member banks met the necessary increase in reserve balances by selling securities to the Reserve banks, thus creating new reserves. The growth in reserve balances permitted an expansion of deposits more than six times the reserve increase. This means that the member banks could support with adequate reserves an increase of six dollars in its deposits for every dollar of securities sold to the Reserve banks.<sup>1</sup>

**Effect of money in circulation on bank deposits.** An increase of money in circulation outside banks tends to decrease bank deposits because the commercial banks provide the only source from which the public may procure greater supplies of currency, including coins. The banks pay out this greater amount of currency only by exchanging it for the release from an equivalent amount of their deposit liabilities. Therefore, an increase in money in circulation outside banks effects a corresponding decrease in bank deposits.

The banks procure needed additional supplies of currency only from one source, namely, the Federal Reserve banks. (Banks not members of the Federal Reserve System procure currency from their correspondent banks who are members of the System.) As is true when a commercial bank pays coins and currency to a customer, a Federal Reserve bank will pay currency to a member bank only if it is released from an equivalent liability to that member bank or obtains an asset of an equal amount. In other words, the member bank obtains currency in exchange for commercial paper and government securities or a draft against its deposit (reserve account) with the Federal Reserve bank of its district. Thus it is seen that an

<sup>1</sup> See *Federal Reserve Bulletin*, May 1946, p. 463.

increase in money in circulation decreases the member bank's reserve account, or other asset account, as well as its deposits.

A different order of cause and effect relationships exists when Treasury currency, such as silver certificates, are issued. In this case, the Treasury purchases silver from producers who receive checks in payment, which checks are deposited in banks. The Treasury may then deposit to its accounts with the Federal Reserve banks an amount of silver certificates equal to the checks drawn in payments for the silver it has purchased. The banks that receive these checks obtain, when they are cleared, deposit credits on their reserve accounts with the Federal Reserve banks. Thus an increase in Treasury currency increases bank deposits and reserve balances. The Reserve banks pay out the silver certificates deposited with them in the same manner as other currency, on order of the commercial banks.

**Effect of gold stock on bank deposits.** An increase in gold stock may be gained in two ways, namely, government purchases of domestic gold and government purchases of gold imports. When the government purchases domestic gold, a check is issued for the purchase price. This check when deposited and cleared increases bank deposits and reserve balances. In the case of gold imports, a foreign seller of gold, who may or may not be a buyer of goods and services from suppliers in the United States, receives deposit credit at the bank which handles the transaction, thereby increasing that bank's deposits. Following current practices, the Treasury receives the gold and the bank gets credit on the books of the Federal Reserve bank of its district. The Federal Reserve bank is recompensed by the receipt of gold certificates from the Treasury. Thus, net imports of gold, as well as Treasury purchases of domestically mined gold, increase bank deposits and reserve balances.

**Factors of decrease in bank deposits.** It follows from what has been said concerning the factors of increase in bank deposits that factors of decrease are converse to those that create deposits. Over a period of time, a decrease in the investments of banks, that is, an exchange whereby deposits of individuals and firms are exchanged for securities, decreases bank deposits. Likewise, when loans of banks are being paid off faster than new loans are being extended, deposits decrease because borrowers ordinarily draw against deposits to pay off their loans.

The Federal Reserve banks might take the initiative to reduce bank deposits by selling securities in the open market. When they sell to individuals or business firms they ordinarily are paid by checks, which checks, when cleared, reduce bank deposits and reserve balances. In case the Federal Reserve banks sell securities to the commercial banks, the payments are made by drafts against the buyers' reserve balances, thereby reducing their ability to engage in credit expansion.

An increase of money in circulation, as has previously been observed, decreases the volume of bank deposits. This is true for seasonal, cyclical, and irregular variations in the money supply. Perhaps the effects on bank deposits of an increase in money in circulation can most clearly be seen in the case of an irregular variation in the money supply, such as widespread runs on banks. In that event, bank deposits decline by reason of withdrawals of deposits in the form of cash which is hoarded.

Net exports of gold reduce deposits and the reserve balances of the banks involved. The reduction of reserve balances, due to gold exports or any other factor, is especially significant because the base for potential bank credit expansion is thereby diminished.

The volume of bank deposits. Table 10 reveals the extent of the growth in bank deposits in the United States from December 31, 1938, to December 31, 1947. The phenomenal increase shown in the table reflects the creation of deposit credit incident to the defense program of the immediate prewar period and the more spectacular growth of bank credit in the wartime economy. Bank purchases of government securities account for the increase in bank deposits during the war years, as has previously been explained. In the postwar period, 1946 and 1947, bank-loan expansion which more than offset a decrease in bank holdings of securities, accounts for the continuation of the trend toward a higher level of bank deposits.

Among the most important factors that might be expected to determine the postwar levels of bank deposits, the volume of bank loans and the volume of government securities purchased by banks from nonbank holders seem to be most significant. Factors affecting bank loans are discussed in the next chapter, and the impact of debt retirement is discussed in the chapter on "The Treasury and the Money Market."

TABLE 10

DEPOSITS OF ALL BANKS IN THE UNITED STATES,  
DEC. 31, 1938-DEC. 31, 1947 \*  
(Amounts in millions of dollars)

Class of bank and call date	Deposits				Number of banks
	Total	Interbank	Other		
			Demand	Time	
<b>All banks:</b>					
1938—Dec. 31	61,319	7,484	28,695	25,140	15,207
1939—Dec. 30	68,225	9,883	32,492	25,850	15,035
1940—Dec. 31	75,963	10,941	38,518	26,504	14,895
1941—Dec. 31	81,780	10,989	44,316	26,476	14,825
1942—Dec. 31	99,796	11,318	61,395	27,083	14,682
1943—Dec. 31	117,661	11,012	75,561	31,088	14,579
1944—Dec. 30	141,449	12,245	91,644	37,559	14,535
1945—Dec. 31	165,612	14,065	105,923	45,623	14,553
1946—June 29	159,171	12,311	98,043	48,817	14,567
Dec. 31	155,904	12,667	92,439	50,798	14,585
1947—Dec. 31	161,380	13,020	95,350	53,010	14,715
<b>All commercial banks:</b>					
1938—Dec. 31	51,041	7,484	28,695	14,862	14,652
1939—Dec. 30	57,702	9,883	32,492	15,327	14,484
1940—Dec. 31	65,305	10,941	38,518	15,846	14,344
1941—Dec. 31	71,248	10,989	44,316	15,944	14,277
1942—Dec. 31	89,132	11,318	61,395	16,419	14,136
1943—Dec. 31	105,923	11,012	75,561	19,350	14,034
1944—Dec. 30	128,072	12,245	91,644	24,183	13,992
1945—Dec. 31	150,227	14,065	105,923	30,238	14,011
1946—June 29	142,890	12,311	98,043	32,536	14,026
Dec. 31	139,035	12,667	92,439	33,929	14,044
1947—Dec. 31	143,610	13,020	95,340	35,250	14,182

\*Source: *Federal Reserve Bulletin*, 1948, p. 108.

## OWNERSHIP OF DEMAND DEPOSITS

Deposits of individuals, unincorporated businesses, and corporations have swollen to record levels by developments of recent years. Individual and business demand deposits which totaled 74.1 billion dollars on December 31, 1945, were only 28 billion in 1939 and 21 billion 1929. The determination of the ownership of these deposits

is of great importance in the formulation of monetary, banking, and fiscal policies. Recognizing this fact, the Board of Governors of the Federal Reserve System has made periodic surveys since July 1943 of the ownership of demand deposits. It is recognized in these surveys, which have been reported in the *Federal Reserve Bulletins*,<sup>2</sup> that demand deposits include only a portion of the total money supply outstanding. Time deposits in commercial and savings banks and in the Postal Savings System and currency make up other significant portions of the total money supply.

The ownership of demand deposits, classified according to the types of holders, in the United States in the period 1941-1946 is set forth in Table 11. The data in this table reveal that in the earlier part of the war period the great bulk of the increase in deposits was in business accounts. Later in the war period, deposits of individuals increased in percentage terms more than did business deposits. The change doubtless reflects the great increase in wage payments and the continued preference of individuals for deposit balances at banks over investments in government securities. The deposits of farmers, which make up less than one-fourth of deposits in personal accounts, constantly increased during the war period, except for seasonal slumps, reflecting good crops and higher prices for farm products. Except for large payments of old debts, demand deposits of farmers would undoubtedly have increased even more. Then, too, farmers are more likely to place funds in time deposits than are other people, as is revealed by the relatively high proportion of time deposits to total deposits in banks located in rural areas.

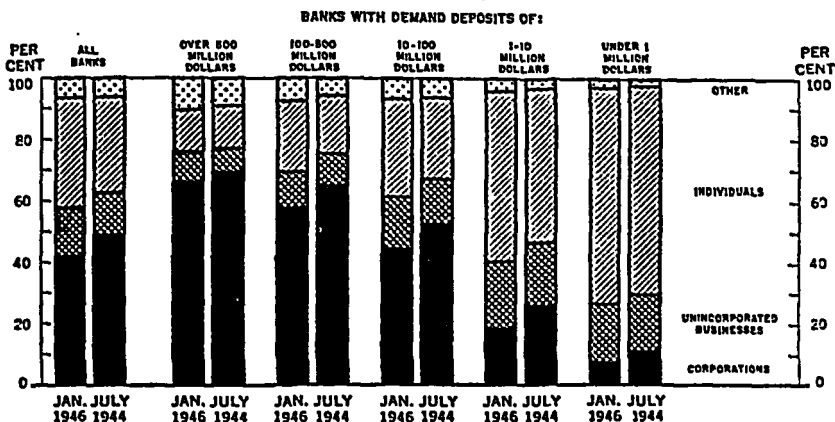
A further factor in the increase in bank deposits in personal accounts is the fact that goods which farmers and wage earners and professional people wish to purchase have been available only in limited quantities. As goods of all descriptions become available in greater quantities, the dollar volume of consumers' purchases might for a time exceed their current incomes. In this case, demand deposits of individuals will likely decline, while deposits of trade and manufacturing firms will likely increase.

Demand deposits by size of bank. The surveys of ownership of de-

<sup>2</sup> *Federal Reserve Bulletin*, August 1943, pp. 713-716; October 1943, pp. 917-922; May 1944, pp. 432-435; November 1944, pp. 1069-1076; April 1945, pp. 331-334; November 1945, pp. 1100-1101; May 1946, pp. 469-472.

mand deposits made by the Federal Reserve banks show that deposit ownership patterns differ considerably in large and small banks.<sup>3</sup> The deposits of small banks are predominantly held in personal accounts while the major portion of total deposits of the largest banks are held by corporations. Chart 2 shows the patterns of deposit ownership in the banks of the United States, divided into five groups

Chart 2

ESTIMATED DISTRIBUTION OF OWNERSHIP OF DEMAND DEPOSITS  
BY SIZE OF BANK

Source: *Federal Reserve Bulletin*, May, 1946, p. 472.

according to volume of demand deposits. The significance of these data is found, in part, in the observation that changes in the proportions of individual and corporate deposits to total deposits is likely to cause shifts from banks of one size classification to banks in other size groups. A decline of deposits in personal accounts and a rise in deposits of corporations, for example, is likely to cause a shift in deposits from smaller to larger banks.

Interregional shifts in deposits. Another part of the surveys of the ownership of demand deposits that has considerable significance, especially to businessmen, are the shifts in deposits from one region of the country to another. The surveys<sup>4</sup> reveal a tendency in the wartime economy for deposits to increase more rapidly in the west and south than in the east. The data which support this observation reflect the greater excess of government expenditures for war pur-

<sup>3</sup> *Federal Reserve Bulletin*, May 1946, pp. 471-472.

<sup>4</sup> *Federal Reserve Bulletin*, May 1946, p. 471.



TABLE 11

OWNERSHIP OF DEMAND DEPOSITS OF INDIVIDUALS,  
PARTNERSHIPS, AND CORPORATIONS, SELECTED  
DATES, 1941-46[Estimates in billions of dollars] <sup>1</sup>

Type of holder	Dec. 31, 1941	July 31, 1943	Feb. 29, 1944	July 31, 1944	Jan. 31, 1945	July 31, 1945 <sup>2</sup>	Jan. 31, 1946 <sup>3</sup>
<b>Total domestic business</b>	<b>24.8</b>	<b>36.3</b>	<b>35.9</b>	<b>37.6</b>	<b>40.4</b>	<b>42.4</b>	<b>42.9</b>
Corporate	*	*	*	29.2	30.6	31.9	31.1
Noncorporate	*	*	*	8.5	9.8	10.5	11.9
<b>Nonfinancial business—total</b>	<b>20.4</b>	<b>31.6</b>	<b>31.5</b>	<b>33.0</b>	<b>35.3</b>	<b>37.1</b>	<b>37.0</b>
Manufacturing and mining	10.0	16.5	16.3	17.2	17.4	18.4	16.1
Public utilities	3.1	3.7	3.7	3.7	3.7	4.0	4.1
Trade	4.6	8.0	8.2	8.8	10.4	10.9	12.6
Other non-financial	2.7	3.4	3.4	3.3	3.8	3.8	4.2
<b>Financial business—total</b>	<b>4.4</b>	<b>4.7</b>	<b>4.3</b>	<b>4.7</b>	<b>5.2</b>	<b>5.3</b>	<b>6.0</b>
Insurance companies	1.9	1.9	1.7	1.7	1.9	1.8	1.9
Other financial	2.5	2.8	2.6	3.0	3.3	3.5	4.1
<b>Personal</b>	<b>9.6</b>	<b>15.8</b>	<b>17.7</b>	<b>18.4</b>	<b>21.5</b>	<b>23.0</b>	<b>26.4</b>
Farmers	*	3.3	4.2	4.0	4.7	5.2	6.0
Others	*	12.5	13.5	14.4	16.7	17.8	20.4
Trust funds		1.2	1.3	1.3	1.4	1.5	1.6
Nonprofit associations	3.2	1.4	1.5	1.6	1.9	2.0	2.4
Foreigners—business and individuals		0.9	0.8	0.7	0.8	0.7	0.8
<b>Total</b>	<b>37.6</b>	<b>55.6</b>	<b>57.2</b>	<b>59.6</b>	<b>65.9</b>	<b>69.6</b>	<b>74.1</b>

<sup>1</sup> Owing to rounding, details may not add to totals.<sup>2</sup> Preliminary.<sup>3</sup> Revised.

\*Not available.

Source: *Federal Reserve Bulletin*, May 1946, p. 470.

poses over tax receipts in the areas where deposits have increased most. Increases and decreases in the volume of deposits held by different classes of depositors also affect interregional shifts in deposits. For example, an increase in the deposits of manufacturing firms and a decrease in deposits of farmers might be expected to cause a shift in deposits from the rural areas to the highly industrialized areas. Whether any interregional shift in deposits is more or

less permanent or only temporary can be determined, of course, only by a careful study of data extending over a considerable period of time.

## THE GUARANTY OF BANK DEPOSITS

Forerunners of federal deposit insurance. In the earlier years of the banking history of the United States, emphasis was placed on bank note issue. This emphasis changed as a continuously larger percentage of bank operations involved the handling of deposits. It was to be expected that as great a demand for the protection of depositors should arise in the later period as that which was felt for the protection of noteholders in the earlier periods. This demand for protection was especially strong in depression periods when bank failures were numerous.

One early attempt (the New York Safety Fund System), which was designed chiefly to redeem the notes of insolvent banks, also sought to protect depositors. After a time, however, protection to depositors was withdrawn other than that afforded by the proceeds of the liquidation of the assets of insolvent banks and by the imposition of double liability on stockholders, as explained in the previous chapter. After the panic of 1893 a movement began to establish a system of deposit guaranty but no legislation resulted. In 1907, again a panic year, agitation for deposit guaranty resulted in the adoption of legislation by the state of Oklahoma in 1908. Other states put into effect systems of deposit guaranty in the years 1909 to 1917, as follows: Kansas (1909), Nebraska (1909), Texas (1910), Mississippi (1915), South Dakota (1916), North Dakota (1917), and Washington (1917). All these systems were discontinued between the years 1923 and 1930.

In a report on *The Guaranty of Bank Deposits* by the Economic Policy Commission of the American Bankers Association published in 1933, some arguments, presented in the light of experience with deposit guaranty in eight states, are advanced.<sup>5</sup> These arguments center around the "apparent unsurmountable actuarial difficulty in the guaranty plan," "the internal deterioration of banking under the influence of the plan," and "the indiscriminate popular confidence

<sup>5</sup> *The Guaranty of Bank Deposits*, by the Economic Policy Commission of the American Bankers Association, 1933.

created toward the banks under the guaranty." This report also furnishes statistical data revealing the higher failure rate among guaranteed banks than among the national banks of the states where deposit guaranty was studied. In North Dakota, for example, the failure rate of guaranteed banks was 50 per cent in the period 1919-1929, while the failure rate of national banks was 35 per cent. In South Dakota these rates were 42 per cent and 33.5 per cent, respectively. In the latter state, certificates of indebtedness were issued to depositors of failed banks when the balance in the guaranty fund was insufficient to meet claims against it. The deficit in the fund, represented by these certificates of indebtedness, was so large that only an insignificant amount was paid to depositors of the guaranteed banks.

An attempt was made to incorporate in the Glass-Owen Bill, which when enacted became known as the Federal Reserve Act, a provision which would establish a plan of national deposit insurance. The House of Representatives, however, deleted this provision before the bill was passed. In 1932, in the midst of the banking crisis, several bills providing for deposit guaranty plans were introduced in each branch of Congress. Not until the passage of the Banking Act of 1933, which provided for a temporary plan of deposit insurance, did a nationwide system of deposit guaranty become a reality. This temporary plan was superseded by the permanent plan which became effective August 23, 1935, with the passage of the Banking Act of 1935.

**The Federal Deposit Insurance Corporation.** The Federal Deposit Insurance Corporation is chartered by the federal government and the Federal Reserve banks. The federal government subscribed to \$150,000,000, and each of the Federal Reserve banks subscribed to an amount equal to one-half of its surplus on January 1, 1934, which amounted to \$139,299,556.99 for all Federal Reserve banks. The stock has no par value and no voting power, and no dividends are paid to holders. The Corporation is empowered to raise additional capital funds by selling its obligations, within limits, but it has not as yet become necessary to use this privilege. Instead, steps are being taken to retire the entire capital stock of the Corporation by payments out of its funds to the Treasury and the Federal Reserve banks.

The management of the Federal Deposit Insurance Corporation is vested in a Board of Directors consisting of the Comptroller of the Currency and two other members appointed by the President, one of whom is designated as chairman. The term of office is six years. Twelve district offices are maintained throughout the country, each of which is under the direction of a supervisory examiner.

**Deposit insurance protection.** The Federal Deposit Insurance Corporation receives income from two principal sources which provides a fund from which disbursements are made: assessments at the annual rate of  $\frac{1}{12}$  of 1 per cent of average deposits, and the income from its holdings of government bonds. The insurance coverage extends to all deposits of insured banks up to a maximum of \$5,000 for each depositor. (An individual may keep a deposit of \$5,000 or less in each of several banks and be fully protected.) When an insured bank is closed, the Corporation immediately prepares to pay the insured deposits, since it considers promptness in the payment of claims essential to the maintenance of confidence in the banking system. Payments on the uninsured portion of deposits are made by the receiver from proceeds of the liquidation of the assets of the closed bank.

The Federal Deposit Insurance Corporation has no power to close a bank; it has power only to terminate the insurance of a bank found to be financially unsound or of a bank whose management persists in following unsound or illegal practices. The power to close a bank is in the hands of the authority which chartered it or in the bank's board of directors.

From 1934 to the end of 1944, deposits of all insured banks placed in receivership amounted to \$109.6 million, and of this amount depositors were paid by the F.D.I.C. and by receivers the sum of \$105.4 million. Thus 96 per cent of total deposits were recovered by the depositors. A little over one-third of all unprotected deposits in excess of \$5,000 were paid by receivers. Further payments on the uninsured portion of deposits of closed insured banks will doubtless be made as the liquidation of the assets continues.

**Receivership activities of the F.D.I.C.** When a national bank is closed, the Federal Deposit Insurance Corporation acts as receiver. It may also be appointed receiver for insured state banks. At the end of 1945, it was acting as receiver for 8 national banks and 9 state

banks, no one of these having been closed in that year. (No insured bank failed in the United States in 1944 and only one received an advance from the Corporation to protect its depositors.) In order to terminate a receivership, the Corporation, as it explains in its *Annual Report* for 1944, sometimes buys the remaining assets from the receiver under competitive bidding. This is done toward the end of the process of liquidating the assets of closed banks. The Corporation resells the purchased assets, in most cases without loss.

**Advances to banks.** In 1935, Congress gave the Federal Deposit Insurance Corporation power to make loans or to purchase assets from insured banks in financial difficulties in order "to facilitate a merger or consolidation of an insured bank with another insured bank" when "such action will reduce the risk or avert a threatened loss to the Corporation."<sup>6</sup> This procedure is described in one of its annual reports as follows:

In such a consolidation acceptable assets of the merging bank are transferred to the absorbing bank, and the Corporation makes available enough cash so that the value of the assets and cash equals the amount of the liabilities which the absorbing bank assumes. To extend its financial aid, the Corporation may make a loan secured by assets of one or both of the banks, or it may purchase assets from them. The purchase of assets has been used exclusively in the mergers of the past four years. Assets may be bought outright or, as is the current practice, they may be bought under an agreement that any excess recovery from their liquidation will be returned to the stockholders of the bank from which they were purchased. Before any distribution is made to the stockholders the Corporation recovers the price paid for the assets, the liquidation costs, and a fair return, now equivalent to 4 per cent interest, on its funds for the time they are outstanding.

In many ways the procedure of making advances to banks provides a more flexible method of liquidating the affairs of an insolvent bank than does placing it in receivership. Depositors are fully protected; there is no break in the banking service either for the depositors or the community; and the community does not suffer the economic dislocations which inevitably follow a bank suspension. In addition, the Corporation is not restricted in liquidating assets it has acquired, as is the receiver of a closed bank. Such assets may be held until their sale will not upset the economic stability of the community, and until they may be liquidated advantageously from the standpoint of the deposit insurance fund.

<sup>6</sup> For a full statement of this power see the Federal deposit insurance law, as amended, Title 12, U.S.C., 1940 ed., sec. 264 (n) (4).

On the other hand advances to banks are not always feasible. Occasionally the affairs of a bank may be in such condition that the only solution is to place it in receivership and remove it completely from the banking system. The procedure of making advances is limited by law to those instances where the advance will "facilitate a merger" and "avert a threatened loss" to the insurance fund. Furthermore, action to merge an unsound bank can be taken only with the consent and cooperation of the bank's stockholders and of the institution willing to absorb it.

Often the requirement that advances be made only when two insured banks merge works against the maintenance of an adequate competitive banking system. In a rural area there may be no bank to absorb the unsound one. To follow the one alternative and place it in receivership may deprive the area of all banking facilities. In an urban community closing a bank, either by merger or suspension, may tend to create a banking monopoly and thus to deprive the community of the benefits of competitive banking service.<sup>7</sup>

**Adequacy of coverage.** In its *Annual Reports*, the Federal Deposit Insurance Corporation has called attention to the need for more adequate insurance coverage on deposits. It supports its argument by pointing out the fact that since 1934 when Congress set the \$5,000 limit on deposit insurance, total deposits of insured banks have increased more than 350 per cent and, also, that there has been a substantial rise in the average size of deposit accounts. Many of the deposit accounts above \$5,000 are business accounts. Should these accounts be frozen in closed banks, business firms would have difficulty in meeting payrolls and other commitments. The Corporation has, for these reasons, strongly recommended that Congress give consideration to the desirability of raising the maximum amount of insurance coverage for any one depositor.

**Supervisory activities of the F.D.I.C.** It is not the sole purpose of the Federal Deposit Insurance Corporation to pay off the depositors of failed banks; rather, its chief function is to prevent bank failures. The very existence of deposit insurance helps to prevent bank failures, assuming no doubt exists concerning the safety and integrity of the system itself. More positive grounds, however, exist for believing that the Federal Deposit Insurance Corporation has aided in the prevention of bank failures. The most important of these is its proceedings against banks that engage in unsafe and unsound banking

<sup>7</sup> *Annual Report of the Federal Deposit Insurance Corporation, 1944*, pp. 17-18.

practices. From 1936 through 1945, actions were taken against 131 banks charged with engaging in unsafe or unsound practices or violations of law or regulations. Disposition of these cases are set forth in Table 12.

TABLE 12

**ACTION TO TERMINATE INSURED STATUS OF BANKS CHARGED WITH ENGAGING IN UNSAFE OR UNSOUND PRACTICES OR VIOLATIONS OF LAW OR REGULATIONS, 1936-1945 \***

Disposition or status	Total cases 1936-1945 <sup>1</sup>	Pending beginning of 1945	Started during 1945
<b>Total banks against which action was taken</b>	<b>131</b>	<b>5</b>	<b>1</b>
<b>Cases closed:</b>			
Corrections made	21	1	
Insured status terminated, or date for such termination set by Corporation, for failure to make corrections:			
Banks suspended prior to or on date of termination of insured status	7		
Banks continued in operation <sup>2</sup>	3		
Banks suspended prior to setting of date of termination of insured status by Corporation	32		
Banks absorbed or succeeded by other banks:			
With financial aid of the Corporation	60	1	
Without financial aid of the Corporation	4		
<b>Cases pending December 31, 1945:</b>			
Corrective program pending	4	3	1

<sup>1</sup> No action to terminate the insured status of any bank was taken before 1936. In 4 cases where initial action was replaced by action based upon additional charges, only the later action is included.

<sup>2</sup> One of these suspended 4 months after its insured status was terminated.

\* Annual Report of the Federal Deposit Insurance Corporation, 1945, p. 22.

In order to give a clearer impression of the nature of specific charges against banks engaging in unsafe and unsound practices, a list of charges brought out in the proceedings against one bank in 1944 are mentioned. This bank was charged with the following unsafe and unsound practices:

Continued operation of the bank with impairment of its capital and with an inadequate net sound capital;

Continued operation of the bank by a management which had failed

and neglected to take proper and necessary steps to correct the bank's unsafe and unsound condition;

Large and excessive amounts of assets of substandard quality and of doubtful value upon which substantial losses are probable;

Insufficiency of earnings and inadequacy of available capital funds to provide for current and developing losses;

Failure to obtain financial statements and other supporting information;

Permitting borrowers to renew their obligations with no likelihood of repayment;

Classifying potential other real estate as loans.<sup>8</sup>

**Bank examinations.** The Federal Deposit Insurance Corporation does not examine national banks or state banks that are members of the Federal Reserve System. These are, at present, examined respectively by the office of the Comptroller of the Currency and the Division of Examinations of the Federal Reserve System. Only insured state banks that are not members of the Federal Reserve System are examined by the F.D.I.C. "Only under unusual circumstances, and with the prior consent of the Comptroller of the Currency or the Board of Governors of the Federal Reserve System, has the Corporation examined national banks or State banks members of the Federal Reserve System."<sup>9</sup>

## FINANCIAL STATEMENT OF THE CORPORATION

Instead of presenting a complete balance sheet of the Federal Deposit Insurance Corporation for any one year, two tables are reproduced from the *Annual Report* for 1944. The one reveals its income and expenses each year since beginning operations. The other reveals the most important assets and liabilities of the Corporation each year since 1934.

The most significant fact revealed by Table 13 is the steady rise in net income added to surplus since the first year of operations. Table 14 shows that despite the great growth in the capital and surplus of the Corporation, the ratio of capital and surplus to deposits in insured banks has declined from the high point of .83 per cent in 1938 to .60 per cent in 1944. This fact does not necessarily

<sup>8</sup> *Annual Report of the Federal Deposit Insurance Corporation, 1944*, pp. 22-23.

<sup>9</sup> *Ibid.*, p. 22.



indicate a weakening in the position of the Federal Deposit Insurance Corporation. A stronger capital-surplus position of the F.D.I.C. with weaker insured banks might be much less strong than a weaker F.D.I.C. and a strong position among insured banks. In other words, the strength of the F.D.I.C. is relative to the strength of the insured banks.

TABLE 13

# INCOME AND EXPENSES OF THE FEDERAL DEPOSIT INSURANCE CORPORATION SINCE BEGINNING OPERATIONS <sup>1</sup>

(In millions of dollars)

Year	Income			Expenses			Net income added to surplus
	Total	Deposit insurance assessments <sup>2</sup>	Investment and other income	Total	Deposit insurance losses and expenses	Administrative expenses <sup>3</sup>	
1933-1945	713.3	563.6	149.7	73.4	31.8	41.6	639.9
1945	121.2	93.7	27.5	4.0	.1	3.9	117.2
1944	99.5	80.9	18.6	3.9	.1	3.8	95.6
1943	86.7	70.0	16.7	4.7	.4	4.3	82.0
1942	69.4	56.5	12.9	4.6	.7	3.9	64.8
1941	62.0	51.4	10.6	4.5	.8	3.7	57.5
1940	55.9	46.2	9.7	10.7	7.1	3.6	45.2
1939	51.2	40.7	10.5	13.8	10.4	3.4	37.4
1938	47.8	38.3	9.5	5.6	2.6	3.0	42.2
1937	48.1	38.8	9.3	6.5	3.8	2.7	41.6
1936	43.8	35.6	8.2	5.2	2.7	2.5	38.6
1935	20.7	11.5	9.2	5.5	2.8	2.7	15.2
1933-34 <sup>4</sup>	7.0		7.0	4.4	.3	4.1 <sup>5</sup>	2.6

<sup>1</sup> Figures of total expenses, deposit insurance losses and expenses, and net income added to surplus for years prior to 1945 differ from those shown in previous Annual Reports because of revisions in estimates of losses allocated to the different years.

<sup>2</sup> Assessments collected from banks insured in the temporary insurance funds were credited in full to their accounts at the termination of the temporary funds, and were applied toward subsequent assessments under the permanent insurance fund. This procedure resulted in no income to the Corporation from assessments for the term of the temporary insurance funds.

<sup>3</sup> Includes furniture, fixtures and equipment purchased and charged off.

<sup>4</sup> Includes expenses from date of organization, September 11, 1933, to December 31, 1934.

<sup>5</sup> After deducting portion of expenses and losses charged to banks withdrawing from the temporary funds on June 30, 1934.

\*Annual Report of the Federal Deposit Insurance Corporation, 1945, p. 32.

TABLE 14  
ASSETS AND LIABILITIES OF THE FEDERAL DEPOSIT  
INSURANCE CORPORATION, 1934-1945 \*  
(In millions of dollars)

Dec. 31	Cash	U. S. Gov- ern- ment obli- gations	In- sur- ance assets	Other assets	Total assets and lia- bilities	Lia- bilities	Cap- ital and sur- plus	Total deposits in insured banks	Ratio— FDIC capital and surplus to deposits in insured banks
1945	15.7	900.0	15.1	.3	931.1	1.9	929.2	158,174.1	.59%
1944	17.8	762.0	26.1	.3	806.2	1.9	804.3	134,662.1	.60
1943	20.0	638.8	46.2	.5	705.5	2.4	703.1	111,649.8	.63
1942	19.4	536.8	62.0	.5	618.7	1.8	616.9	79,868.7	.69
1941	20.0	453.9	81.7	.1	555.7	2.2	553.5	71,209.3	.78
1940	20.4	384.5	92.2	.1	497.2	1.2	496.0	65,287.4	.76
1939	28.3	363.5	64.2	.1	456.1	3.4	452.7	57,485.8	.79
1938	22.2	372.8	26.5	.1	421.6	1.1	420.5	50,790.2	.83
1937	20.6	348.5	16.1	.1	385.3	2.2	383.1	48,227.8	.79
1936	9.1	332.6	11.4	.1	353.2	9.8	343.4	50,280.9	.68
1935	33.5	298.2	5.4	.1	337.2	31.2	306.0	45,125.1	.68
1934	16.0	316.7	.5	.1	333.3	41.6	291.7	40,059.9	.73

\* Annual Report of the Federal Deposit Insurance Corporation, 1945, p. 32.

## APPRAISAL OF FEDERAL DEPOSIT INSURANCE

Although occasional arguments against the principle of deposit insurance in any form are still heard, the present system is now generally regarded as being good. The case for deposit insurance rests on at least three different planes of reference. One of these is purely pragmatic: the Federal Deposit Insurance Corporation has been a success. Although this argument should be tempered by the facts that the F.D.I.C. came into existence at a time when a large number of the weakest banks had previously passed out of existence and that it has operated mostly in good times, refutation becomes more difficult with the passage of more years of successful operation. Another argument in the case for deposit insurance is partly historical. It asserts that a long history of bank note issues proved the need for protection of bank note holders and that, similarly, the history of

bank deposits has proved the need for more adequate protection over deposits than the individual bank can supply. The third argument is psychological: that the general public's belief that deposits are protected dispels fears of loss that might exist even though such fears are unfounded. Since runs on banks are contagious—they spread from bank to bank without much regard to the strength of each bank—it is logical to think that uniform and over-all protection is needed, not only for the protection of depositors but for the banks as well.

The case against deposit insurance rests partly on the argument that it tends to promote unsafe and unsound banking practices, since bankers are likely to feel that depositors are protected despite risky ventures. Although this argument finds some support in the experiences with some state plans for deposit guaranty, little support is found for it thus far in experiences with the present federal plan. In fact, high-risk bank credit expansion has more accurately characterized banking without deposit insurance than with it. Furthermore, it is doubtful that bank executives forsake their position as men of integrity and good judgment because of the existence of deposit insurance.

### STUDY QUESTIONS

1. Describe situations in which most people would prefer to use one rather than another of the three means by which payments may be made: (1) coins, (2) currency, (3) bank checks.
2. "Since bank deposits can readily be converted into coins or currency, the use of checks is conclusive evidence of their superiority over coins or currency." Do you agree? Explain.
3. "A deposit may be *primary* from the point of view of the individual bank, yet be *derivative* from the point of view of the banking system." Do you agree? Explain.
4. Enumerate the most important factors of increase in bank deposits and explain each of them.
5. The following answers were given by members of a group of students to the question—"How do you account for the rise in bank deposits in the war years, 1941-1945?" Comment on each statement.
  - a. "Increased government spending brought more money in circulation which quite largely became bank deposits."
  - b. "Bank loans decreased which gave banks more funds to invest in government bonds."

- c. "During the war, prices held stationary and there was a scarcity of goods; people had more savings; therefore, bank deposits increased."
  - d. "Federal spending, resulting from the issuance of Treasury obligations, placed additional funds with individuals and corporations, who then deposited it in banks."
  - e. "Since people had more money than they could spend on the limited volume of goods available for purchase with that money, the people had savings which they deposited in banks."
  - f. "Deposits were increased because full employment, war activity, and the general carefree attitude of the public increased the volume of money in circulation."
  - g. "The increase in the volume of business activity caused the increase in bank deposits."
6. How may the deficit financing of the government affect the liquid asset holdings of the general public? Explain the method by which each of the three forms of liquid assets may be created?
  7. "Changes in the volume of Federal Reserve bank credit only indirectly affect the money supply of the economy, but these changes exert a more powerful influence than their volume might indicate." Explain.
  8. Indicate the effect on a bank's statement of withdrawals of currency in excess of deposits of currency. Show also the effect on the Federal Reserve bank's statement when a member bank is supplied currency by the Reserve bank.
  9. Indicate the effect on bank statements of a purchase of a given amount of silver by the Treasury. Show also the effect of the same transaction on the Federal Reserve statement.
  10. Suppose the Treasury buys \$1 million of silver from a silver producer and that in the same period of time money in circulation increases by the same amount. What difference does it make that this demand for more money in circulation should have been met by silver certificates or by Federal Reserve notes in the absence of the silver purchases?
  11. Indicate the effect on commercial bank statements and on the Federal Reserve bank statement of (1) net gold imports and (2) government purchases of gold from domestic producers.
  12. Explain the significance of changes in the ownership of bank deposits and of interregional shifts in deposit ownership.
  13. Account for the failure of state plans of deposit guaranty.
  14. The failure of state plans of deposit guaranty gave rise to what arguments against any system by which bank deposits are insured or guaranteed?
  15. "The Federal Deposit Insurance Corporation is more interested in preventing bank failures than in mitigating the hardships caused by

bank failures." Explain the actions that might be taken by the F.D.I.C. to prevent bank failures.

16. From what sources of income has the F.D.I.C. built up a fund for use in preventing bank failures and for use in paying off depositors of insured banks that have failed?
17. "An element of discrimination against some banks is present in the regulation that limits the degree of protection furnished by the F.D.I.C. to \$5,000 for each account." Explain and comment.
18. "A comparison of the financial statement of the F.D.I.C. of earlier and later years reveals that the ratio of its capital and surplus to deposits of insured banks has fallen." Explain the cause and comment upon this development.
19. Appraise the arguments for and against the principle of deposit insurance.

# C H A P T E R

## 9

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### BANKS MAKE LOANS

**Introduction.** Bank loans are important from two points of view. They are important to the commercial banks because they are a source of the banks' income. They are important to the economy as a whole because the expansion and contraction of bank loans affect the level of business activity through their effect on the nation's money supply.

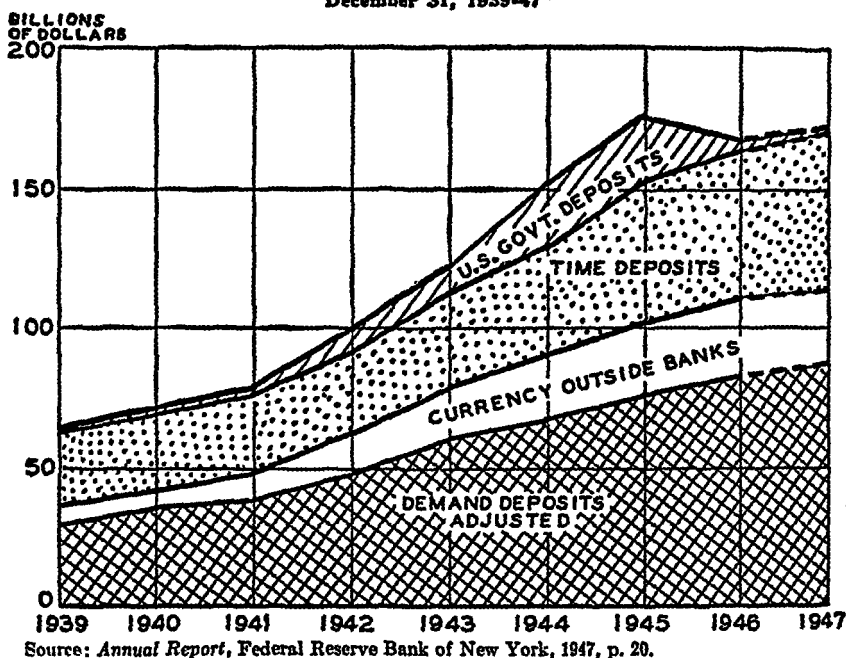
During the past two decades the trend in the percentage of the banks' gross income attributable to loans has been declining. However, an upturn in this trend occurred in 1946. Although member bank loans from 1929 to 1939 decreased to a level not much above half the level at the beginning of this period, and their investment holdings were slightly more than twice the level of the earlier year, the income of the member banks from interest on loans in the later year was greater than their income from investments. This reflects the higher rate of interest on loans than on investments. During World War II bank income from loans declined slightly, while their income from investments increased greatly, reflecting a sharp rise in bank holdings of securities. In 1946, a considerable increase in bank loans occurred, while their holdings of securities fell considerably over the previous year, reflecting the discontinuation of wartime deficit financing and extensive postwar needs of business firms for working capital. In 1946, member banks had gross income from loans of \$761 million and gross income from investments of \$1,201 million, on an average loan volume of \$24,257 million and an average investment volume of \$77,601 million.

## BANK CREDIT AND THE MONEY SUPPLY

The relationship between bank loans and investments and bank deposits, and the importance of bank deposits in the nation's money supply has been discussed in previous chapters. However, the cardinal importance of this subject justifies a more detailed treatment of it, particularly its relationship to the earning assets of banks or bank credit.

Chart 3

Deposits and Currency in the United States  
December 31, 1939-47\*



The growth of the privately owned money supply in the United States in the years 1939-1947 is depicted by Chart 3. The tabular material from which this chart was constructed reveals that the total volume of demand deposits and currency (adjusted to exclude government and interbank deposits, the "float," and currency held by banks) increased by about \$14.3 billion in 1942, \$16.8 billion in 1943, \$10.8 billion in 1944, \$11.9 billion in 1945, \$7.6 billion in 1946, and \$3.6 billion in 1947. Adding the increase in time deposits to the increase in demand deposits and currency outside banks gives the total increase in privately held money supply shown in the "total" column of Table 15.

**TABLE 15**  
**CAUSES OF CHANGES IN THE VOLUME OF BANK DEPOSITS AND CURRENCY \***  
(In millions of dollars; (+) or (-) reflects effect on volume of deposits and currency)

Date	Treasury net cash income or outgo	Changes in							Other	Total
		Bank Loans		Nonbank holdings of U. S. securities	Bank hold- ings of other securities	Gold and foreign accounts	Total bank capital accounts			
		Loans on securities	Other							
1939	+ 2,805	- 274	+ 1,192	- 600	- 316	+ 2,934	- 86	- 458	+ 5,187	
1940	+ 2,708	- 223	+ 1,805	0	+ 152	+ 3,615	- 115	- 1,187	+ 6,755	
1941	+ 9,994	- 114	+ 2,979	- 7,300	- 404	+ 1,101	- 85	+ 217	+ 6,328	
1942	+ 39,248	+ 261	- 2,962	- 20,600	- 724	- 30	- 110	- 120	+ 14,963	
1943	+ 50,809	+ 798	- 1,112	- 24,800	- 845	- 1,355	- 441	- 1,965	+ 21,089	
1944	+ 46,146	+ 2,208	+ 206	- 31,400	+ 129	- 1,163	- 647	+ 2,358	+ 17,837	
1945	+ 35,751	+ 2,214	+ 2,096	- 19,800	+ 1,016	- 212	- 919	+ 392	+ 20,568	
1946	- 989	- 3,664	+ 8,950	+ 6,100	+ 931	+ 818	- 826	+ 2,891	+ 14,211	
1947	- 6,863 <sup>2</sup>	- 1,100 <sup>1</sup>	+ 8,450 <sup>1</sup>	+ 500 <sup>3</sup>	+ 1,200 <sup>3</sup>	+ 3,309 <sup>2</sup>	- 580 <sup>3</sup>	+ 889 <sup>3</sup>	+ 5,800 <sup>3</sup>	

\* Exclusive of U. S. Government deposits and currency in banks, but inclusive of time as well as demand deposits.

<sup>1</sup> Estimated by Federal Reserve Bank of New York.

<sup>2</sup> Adjusted for payment of United States quota in International Monetary Fund.

<sup>3</sup> Preliminary.

Source: Treasury cash income or outgo and nonbank Government security holdings—derived from *Treasury Bulletin*; all other data—Board of Governors. Reproduced from *Annual Report*, Federal Reserve Bank of New York, 1947, p. 22.



The causes of these changes in bank deposits and currency, hereafter called the money supply, are set forth in Table 15. Each item in this table is briefly explained as follows: *Treasury net cash income or outgo* is a factor of increase in the money supply when net cash outgo exceeds net cash income, while an excess of income over outgo has the opposite effect. This item is not computed by reference to the Treasury's budget, but rather by reference to the Treasury's receipts and expenditures. *Bank loans* increase the nation's money supply when they rise, and decrease the money supply when they fall in volume. *Nonbank holdings of U.S. securities* increase the money supply when they fall in volume and decrease the money supply when they rise in volume. When nonbank holders of U.S. securities are buying U.S. securities at a more rapid rate than they are selling them, bank deposits and currency decline, because deposits and currency are used as means of payment for those securities. When nonbank investors are selling or redeeming U.S. securities, as was the case in 1946, they acquire bank deposits and currency, thereby adding to the privately held money supply. An increase in *Bank holdings of other securities* increases the money supply because bank deposits and currency are paid out for them. Conversely, a decrease in this item, decreases the privately held money supply. (Bank holdings of U.S. securities are reflected in changes in the item, nonbank holdings of U.S. securities.) An increase in *Gold and foreign accounts* reflects net gold imports plus disbursements of foreign central banks and governments of funds in the U.S. market previously held in the form of deposits or earmarked gold in the Federal Reserve banks. A decrease in this item, obviously, reflects a loss of a part of the public's money supply in the United States. An increase in *Total bank capital accounts* decreases the money supply, while a decrease in this item increases the money supply, because bank capital, through sales of new capital stock, additions to undivided profits, etc., absorbs a part of the public-held money supply. *Other* items are obtained residually and all items of change in privately held money supply not accounted for by the factors that have been explained are included in this miscellaneous item called *other* factors.

The foregoing descriptions of factors of change in the public's (nonbank) holdings of currency and deposits require further expla-

nations. It should be understood that each item must be related to other items—that a change in one item may be offset by a change in the opposite direction in other items. For example, an increase in the excess of Treasury net cash outgo over income, which has been described as a factor of increase in bank deposits and currency, may be offset by the amount of increase in nonbank holdings of government securities. Thus the total amount of a net cash outgo of the Treasury does not necessarily add the same amount to the privately owned money supply. The figures in the table for the year 1945 might be listed as follows (in millions of dollars):

Treasury net cash outgo		35,751
Bank Loans on securities	2,244	
Other bank loans	2,096	
Bank holdings of other securities	1,016	
Other factors	392	
Total factors of increase		41,499
Nonbank holdings of U.S. securities	19,800	
Gold and foreign accounts	212	
Bank capital accounts	919	
Total factors of decrease		20,931
Net increase in bank deposits and currency		20,568

These data reveal the dominant position of bank credit in the determination of the volume of bank deposits and currency. Bank purchases of government securities or other securities and bank loans account for most of the increase in bank deposits and currency in each year since 1941.

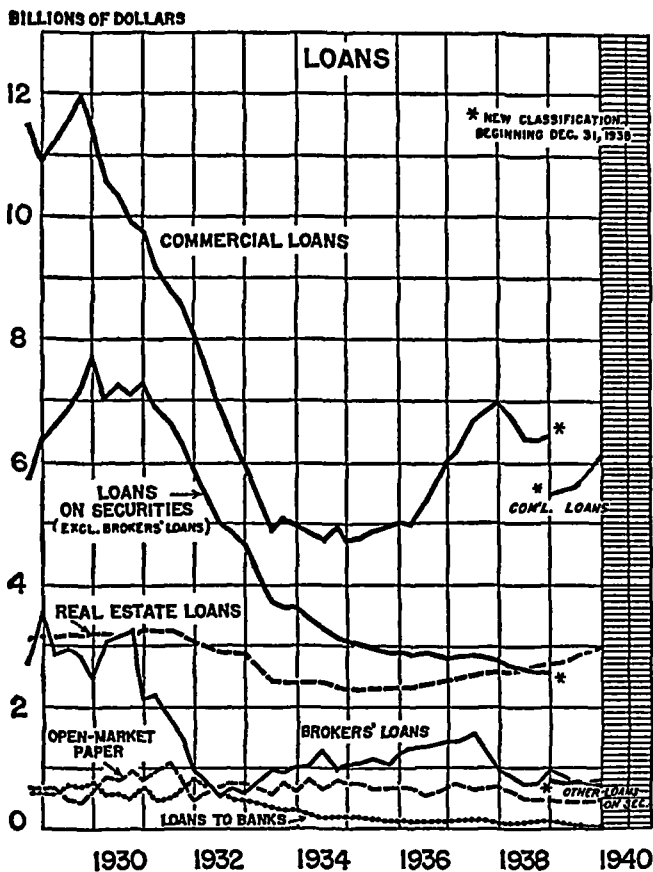
## TRENDS IN BANK LOANS

The data on loans of member banks are presented in two charts, one on trends in the volume of loans from 1929 to 1938, and the other for the period 1939 to 1946. This procedure is followed because a new classification of bank loans was adopted in 1939. Whereas the older classification was based on type of collateral, the newer classification is based primarily on the purposes for which loans are granted.

Trends in bank loans, 1929–1938. Chart 4 depicts trends in the different types of bank loans from 1929 to 1938, inclusive. Attention is directed particularly to (1) the rise in the volume of bank loans on securities in 1929, (2) the abrupt fall in commercial loans in

1930, while loans on securities fell only slightly, (3) the period, January 1931 to the middle of 1933, characterized by a continuation of the precipitous decline in commercial loans and an equally sharp decline of loans on securities, and (4) a rise in the volume of commercial loans beginning in 1934 and ending in the recession of 1938.

Chart 4 LOANS OF MEMBER BANKS



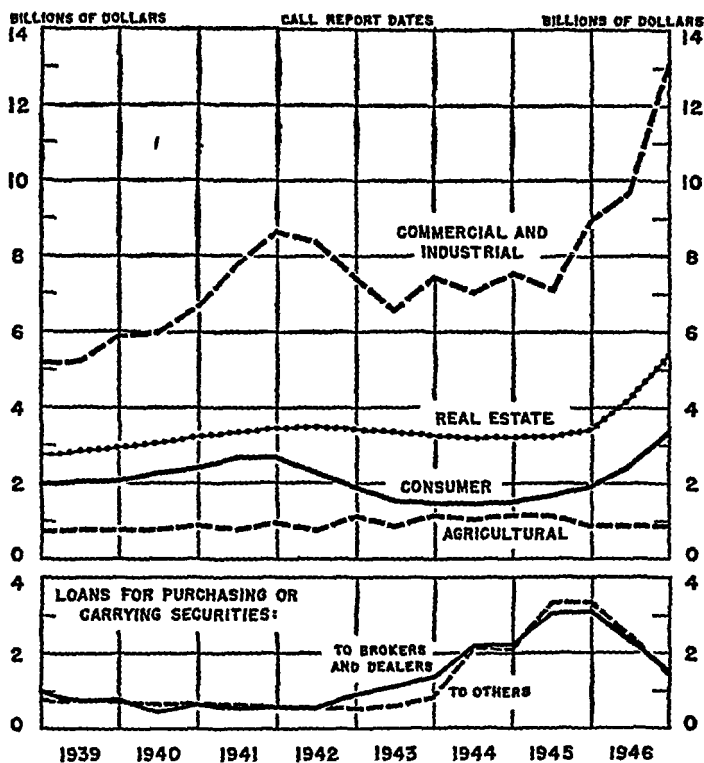
Source: *Chart Book*, Board of Governors of the Federal Reserve System.

Trends in bank loans, 1939-1946. Chart 5 shows trends in bank loans, 1939-1946. The most important conclusions to be drawn from this picture are (1) the rise in commercial loans in 1940 and 1941 incident to the defense preparations of those years, (2) a leveling off in commercial loans during the war years because methods of financing war expenditures other than through bank loans were followed, (3) a rise in brokers' loans and loans to others on securi-

ties, mostly because of loans made for purchasing and carrying government securities, (4) the falling level of consumer loans attributable to regulations concerning these loans and to the unavailability of many items of durable consumers' goods, and (5) a

Chart 5

## LOANS AT MEMBER BANKS, BY TYPE OF LOAN



Source: Federal Reserve Bulletin, March, 1947, p. 235.

spectacular rise in 1946 in commercial and industrial loans, real estate loans, and consumer loans, while loans for purchasing or carrying securities fell by reason of the cessation of deficit financing by the government.

**Postwar revival in bank lending.** Prior to the increase in bank lending, beginning shortly before the end of the recent war, the volume of bank loans had not recovered from the severe liquidation of the great depression in the early 'thirties. In the twelve-months period following the end of World War II the volume of bank lending

increased in an amount greater than in any period since the 1919-20 postwar period when a similar expansion occurred. McCracken has attributed the great demand for bank credit in 1946 to the high level of business activity and inflationary conditions, stating that such conditions are characterized by "rapidly rising prices, swelling accounts receivable, heavy inventory accumulation, and substantial outlays on new plant and equipment."<sup>1</sup> A part of McCracken's explanation of these causes of bank-loan expansion follows:

It was inevitable that the working capital of many businesses, adequate for a period of comparatively stable prices, was not adequate for a period when prices were rising at an annual rate of 30-40 percent or more per year. More working capital was required, and bank credit supplied a substantial proportion of it.

Second, during a period of rapidly rising business activity, many firms find their sales and production rising more rapidly than receipts because of a substantial rise in accounts receivable. They find themselves in the position of temporarily financing their customers' added purchases. For example, receivables of all U.S. corporations during the final three quarters of 1946 increased by roughly \$7 billion. Some of this is offset by a corresponding increase on the other side of the ledger in accounts payable. But it does not cancel out for many firms, and they must often borrow to cover this lag of cash receipts behind sales and operating expenses.

The third development in 1946 which gave rise to a heavy demand for bank credit was the very rapid rise in the value of business inventories. During the latter part of the year the book value of these inventories was rising at the rate of about \$12 billion per year. This has risen from two sources. Part of it has occurred because existing inventories, at higher prices, are worth more. But part of it has come about through the accumulation of added goods. The relative increases were largest at the wholesale and retail levels and smallest for manufacturers.

Fourth, many businesses have invested substantial sums of money in constructing new buildings, extensive alterations of existing ones, and the purchase of new equipment. As a matter of fact, American business last year spent in the neighborhood of \$13 billion on new equipment alone. While this is in a sense fixed capital, some part of it has been financed by bank credit. Banks have lent money directly, often through some type of amortized loans. This undoubtedly helps to explain the substantial amount of term business loans made by banks, loans with a maturity period in excess of one year.<sup>2</sup>

<sup>1</sup> McCracken, Paul W., *The Rising Tide of Bank Lending*, Federal Reserve Bank of Minneapolis, May 1947, p. 25.

<sup>2</sup> *Ibid.*, pp. 21-24.

TABLE 16

LOANS OF MEMBER BANKS ON SELECTED CALL DATES, 1941-1946  
(In thousands of dollars)

	Dec. 31, 1941	Dec. 31, 1942	Dec. 30, 1944	Dec. 31, 1945	Dec. 31, 1946	June 30, 1947	Dec. 31, 1947
<b>Loans</b>	18,020,904	16,088,324	18,676,062	22,775,207	26,695,670	26,655,103	32,627,985
Commercial and industrial loans, including open-market paper	8,671,114	7,386,885	7,530,983	8,948,919	13,154,271	13,819,662	16,962,393
Loans to farmers directly guaranteed by the Commodity Credit Corporation	972,321	{ 525,852 562,919	629,977	215,502	74,303	11,872	43,548
Other loans to farmers			567,698	639,653	809,938	960,573	1,002,663
Loans to brokers and dealers in securities	594,193	934,453	2,248,714	3,133,229	1,505,534	1,506,695	810,737
Other loans for purchasing or carrying securities	597,634	538,153	2,108,273	3,378,017	1,466,920	1,153,632	1,064,666
Real estate loans:							
On farm land	294,962	265,570	243,247	276,809	385,049	429,968	447,431
On residential property	2,396,116	2,457,679	2,389,755	2,522,079	3,903,481	4,619,673	5,380,658
On other properties	802,831	699,913	575,513	656,286	1,068,778	1,190,294	1,302,410
Loans to banks	39,023	26,384					
Other loans to individuals:			126,068	168,876	392,006	600,297	756,608
Retail automobile installment paper	{ 3,652,660	211,425			281,449	368,298	479,516
Other retail installment paper		277,685	159,777	223,767	268,246	345,316	479,017
Repair and modernization installment loans			224,694	291,719	503,594	636,610	711,897
Installment cash loans		284,876	994,743	1,216,079	1,862,259	2,047,419	2,234,633
Single-payment loans		1,073,186	58,751	47,002	79,473	99,637	113,026
All other loans (including overdrafts)		{ 843,344	817,869	1,057,270	940,369	865,157	838,782

Source: Member Bank Call Report, December 31, 1940, and Member Bank Call Report, December 31, 1947.

Table 16 reveals a continuation of the postwar increase in bank loans in 1947, the increase in that year being almost \$6 billion for the member banks. For all banks the increase was slightly more than \$7.5 billion.

### CUSTOMERS' AND OPEN MARKET LOANS COMPARED

The customers' loan market is characterized by personal considerations such as those ordinarily involved in dealings between banks and their regular customers. In the open market, on the other hand, the operations of both borrowers and lenders are impersonal. A lender in the open market (who is the buyer of an open market paper) does not look to a particular borrower with whom to establish a continuous creditor-debtor relationship. Nor does a borrower (the person or firm which offers paper for sale in the open market) expect to establish a line of credit with a particular lender. In the open market each transaction is consummated without regard to the past operations or expected future operations of particular persons. The borrower offers paper for sale by turning it over to a notebroker who finds a buyer for it. Hence, the borrower does not know the identity of the prospective lender. When a loan in the open market matures, it must be paid; there is no extension of time for payment and no renewal.

In the customers' market the banker feels obligated to grant the reasonable demands of his customers for loans because the continued success of his bank depends on his ability to retain the good will of his customers, while customers often borrow from their local bank despite the fact that they may, at times, obtain credit accommodation at a lower rate elsewhere. In other words, the customers wish to make their banker feel obligated to them so that in time of need they can be reasonably certain of obtaining some accommodation. Extensions and renewals are common in the customers' market, so much so that both the lenders and borrowers frequently expect a short-term loan to become a long-term loan.

In this chapter, we are concerned chiefly with loans made by banks to their customers and the administration of the typical loan department rather than with open market loans.

## LOANS TO BUSINESS

The different types of bank loans are revealed in the *Member Bank Call Report* which is published for each call date by the Board of Governors of the Federal Reserve System. Table 16 is a part of one series of data taken from the Call Report for December 31, 1946 and December 31, 1947. The data in Table 16 include open market paper, since figures, once separately reported, are now included in commercial and industrial loans of member banks. Nevertheless, open market loans of banks will receive separate treatment in this chapter. Only the most important types of bank loans to customers are discussed, and each of these on account of limitations on space is treated briefly.

Commercial and industrial loans. According to the strict, traditional definition, commercial loans are loans granted for commercial purposes, as distinguished from loans for investment, speculative, or consumption purposes. Perhaps the best illustration of a commercial loan is a short-term (less than one-year maturity) loan to a business firm to provide funds for purchasing raw materials that almost immediately enter processing operations. Many bank loans classified as commercial loans are, however, not made for strictly commercial purposes. They are, rather, made for investment or speculative purposes. A study of the situation in 1916 revealed that approximately 50 per cent of all loans made by national and state banks and trust companies was devoted to intermediate or long-term investment purposes.<sup>3</sup> Some loans for purchasing or carrying raw materials may be assumed to be speculative in character, representing speculative commitments in raw materials.

*Survey of business loans of member banks.* A nationwide survey of the loans of member banks as of November 20, 1946, was made by the Board of Governors of the Federal Reserve System and the Federal Reserve banks. "The broad purpose of this survey was to collect a comprehensive body of information on the magnitude and characteristics of current bank lending to business enterprise and on the role commercial banks are playing in financing businesses of various sizes in different industries and regions during the first postwar

<sup>3</sup> Moulton, H. G., "Commercial Banking and Capital Formation," *Journal of Political Economy*, Part II, Vol. XXVI, pp. 638-663 (1918).



expansion in economic activity.”<sup>4</sup> The most significant findings of this survey for the purposes of this chapter are those that concern (1) the type of business of borrowers from member banks, (2) the security pledged on member bank loans to business, and (3) the extent of term lending to business by member banks.

*Type of business of borrowers from banks.* Table 17 shows the types of business firms that had bank loans outstanding on November 20, 1946, in the amount of \$13,189 million. These data show that manufacturing and mining firms were responsible for the largest dollar volume of bank loans among the eight categories into which business borrowers from banks were divided. These same firms accounted for the second largest number of loans, the group accounting for the largest number of loans being retail trade. Retail trade, however, accounted for only 11 per cent of the total dollar volume of bank loans compared with 42.8 per cent in the case of manufacturing and mining concerns. Firms handling food, liquor, tobacco, and drugs accounted for a large proportion of loans on all three levels of production, namely, the manufacturing, wholesale, and retail levels.

Other data produced by the survey, not reproduced here, reveal that large firms, those with total assets in excess of \$5 million, were responsible for the greatest part of the dollar volume of bank loans to commercial and industrial firms. Smaller firms, those with total assets under \$250,000 each, had a much greater number of loans. “For every loan outstanding to a large concern there were 50 loans outstanding to small firms as defined above. The dollar amount of the average loan to the large business, however, was over 90 times that of the loans to the smaller concern.”<sup>5</sup>

As might be expected, the data also reveal that large banks lent the highest proportion of the dollar volume of total bank loans to commercial and industrial firms. The largest banks, those with total deposits of \$500 million or more were virtually the only lenders to largest borrowers. Although the largest banks also made some small loans, the smaller banks were best able to handle the credit needs of smaller firms, especially those located in the smaller communities that do not operate in nationwide markets. A legal factor, as well

<sup>4</sup> *Federal Reserve Bulletin*, March 1947, p. 254.

<sup>5</sup> *Ibid.*, p. 255.

TABLE 17

BUSINESS LOANS OF MEMBER BANKS, NOVEMBER 20, 1946  
BY BUSINESS OF BORROWER

[Estimates of outstanding loans]

Business of borrower	Amount of loans		Number of loans	
	In millions of dollars	Per-centage distribution	In thousands	Per-centage distribution
All borrowers	13,189	100.0	673	100.0
Retail trade, total	1,472	11.2	253	37.6
Food, liquor, tobacco, and drugs	396	3.0	82	12.2
Apparel, dry goods, and department stores	420	3.2	34	5.1
Home furnishings, metal products, and building materials	284	2.2	58	8.6
Automobiles, parts, and filling stations	199	1.5	45	6.7
All other	173	1.3	34	5.1
Wholesale trade, total	2,411	18.3	88	13.1
Food, liquor, tobacco, and drugs	1,010	7.7	31	4.6
Apparel and dry goods	570	4.3	9	1.3
Home furnishings, metal products, and building materials	308	2.3	22	3.3
Automobiles, parts, and petroleum	102	0.8	8	1.2
All other	422	3.2	17	2.5
Manufacturing and mining, total	5,650	42.8	116	17.2
Food, liquor, and tobacco	1,536	11.6	18	2.7
Textiles, apparel, and leather	484	3.7	16	2.4
Metals and metal products	1,629	12.4	29	4.3
Petroleum, coal, chemicals, and rubber	1,061	8.0	13	1.9
All other	939	7.1	40	5.9
Public utilities	1,222	9.3	38	5.6
Services	490	3.7	76	11.3
Construction	446	3.4	43	6.4
Sales finance	779	5.9	7	1.0
All other <sup>1</sup>	719	5.4	52	7.7

<sup>1</sup> Includes a small number and amount of loans unclassified by business of borrower.

NOTE.—Detailed figures may not add to totals because of rounding. Data are preliminary and subject to minor revisions.

Source: Koch, Albert R., "Business Loans of Member Banks," *Federal Reserve Bulletin*, March 1947, p. 255.

**TABLE 18**  
**BUSINESS LOANS OF MEMBER BANKS, NOVEMBER 20, 1946**  
**BY TYPE OF SECURITY**

[Estimates of outstanding loans]

Major type of security	Amount of loans (In millions)	Number of loans (In thousands)	Percentage distribution	
			Amount	Number
Unsecured	\$7,322	239	55.3	35.6
Secured	5,799	410	43.8	61.1
No information	116	22	0.9	3.3
<b>All loans</b>	<b>13,237</b>	<b>671</b>	<b>100.0</b>	<b>100.0</b>
<b>Secured:</b>				
Endorsed and co-maker	706	76	12.2	18.5
Inventories	1,195	35	20.6	8.6
Bonded warehouse receipts	420	7	7.2	1.8
Field warehouse receipts	62	1	1.1	0.3
Other warehouse receipts	458	7	7.9	1.8
Other inventories	255	19	4.4	4.7
Equipment	706	111	12.2	27.1
Assignment of title on equipment	102	10	1.8	2.5
Chattel mortgage on equipment	604	101	10.4	24.6
Plant or other real estate	943	77	16.3	18.7
Stocks, bonds, and mortgages	1,075	46	18.5	11.3
U. S. Government securities	368	17	6.3	4.1
Other bonds	90	2	1.6	0.5
Listed stocks	297	18	5.1	4.5
Unlisted stocks	190	6	3.3	1.6
Assignment of deed of trust or mortgage on property not owned by the borrower	130	2	2.2	0.6
Accounts receivable	190	13	3.3	3.1
Life insurance	148	22	2.6	5.3
Oil runs	191	2	3.3	0.5
Assignment of claims	314	20	5.4	4.8
Assignment of Government claims	21	( <sup>1</sup> )	0.4	0.2
Assignment of claims against other than Government	274	13	4.7	3.2
Savings accounts	19	6	0.3	1.5
Government participation or guarantee	119	2	2.1	0.6
V, VT or T loans	22	( <sup>1</sup> )	0.4	( <sup>1</sup> )
R.F.C. participation	64	1	1.1	0.3
R.F.C. blanket guarantee	32	1	0.6	0.2
F. R. Bank participation or guarantee	1	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Other security	212	5	3.7	1.5
<b>All secured loans</b>	<b>\$5,799</b>	<b>410</b>	<b>100.0</b>	<b>100.0</b>
G. I. guarantee or insurance—partial security <sup>2</sup>	\$54	16	0.4	2.4

<sup>1</sup> Less than 500 loans or 0.05 per cent.

<sup>2</sup> Where G. I. guarantee or insurance is not the primary security these loans are classified according to major collateral; otherwise they are classified under "other security."

NOTE.—Figures may not add to total because of rounding.

Source: Smith, Tynan, "Security Pledged on Member Bank Loans to Business," *Federal Reserve Bulletin*, June 1947, p. 665.

as economic factors, operates to forbid small banks from making large loans; namely, a member bank, subject to some exceptions, is forbidden to lend to any one borrower an amount in excess of 10 per cent of the bank's unimpaired capital stock and surplus.

*Security pledged on member bank loans to business.* The foregoing analysis has answered the question, Who are the commercial and industrial borrowers from banks? Another important question is, What security have the banks obtained on these loans? The answer to this question, as well as to the former one, was sought by the same survey conducted by the Board of Governors of the Federal Reserve System and the Federal Reserve banks. Tynan Smith reported the findings in a recent issue of the Federal Reserve Bulletin, which shall be the chief source of our information on this question.<sup>6</sup> Table 18 summarizes these findings concerning the types of security pledged on business loans of member banks.

*Unsecured loans.* The findings of this survey confirms the widespread impression among students of banking that large companies operating on a nationwide scale obtain most of their bank credit on an unsecured basis. Smith states the chief reasons for the ability of large firms to borrow on an unsecured basis as follows:

. . . They have frequent and detailed balance sheet and income statements which are readily available and usually verified by a responsible accounting firm. Further, their credit-worthiness is generally recognized and they have access to many nonbanking sources of credit, including other lenders such as insurance companies as well as the securities markets. Lastly, they often borrow from more than one bank and the maintenance of credit relations with several banks requires that no one of them be given a preferred position by the pledge of collateral. Competition among lenders for the business of these large companies is such that insistence upon collateral is usually tempered by the realization that the credit may be secured from another source.<sup>7</sup>

The observations made by Prochnow and Foulke are relevant to this analysis of secured and unsecured loans. They say:

In reality the term "unsecured" is somewhat misleading, for, strictly speaking, a good unsecured loan is adequately secured. The borrower does not pledge collateral, but he presents a balance sheet, a profit and

<sup>6</sup> Smith, Tynan, "Security Pledged on Member Bank Loans to Business," *Federal Reserve Bulletin*, June 1947, pp. 664-680.

<sup>7</sup> *Ibid.*, p. 666.

loss statement, and an antecedent record as the basis for the loan. The banker grants the loan on the financial strength of the business as revealed by the financial statements, together with such other considerations as the character and reputation of the borrower, his business ability, past business experience, and relationship with the bank. The loan is not actually unsecured, in the sense that there is no assurance of payment, for it is in reality secured by the entire business and its unpledged assets.<sup>8</sup>

**Stocks and bonds as collateral.** The survey of the Board of Governors indicates that the nature of the collateral used by business firms in obtaining loans from banks is closely related to the purpose and maturity of the loans. The purposes of bank loans to commercial and industrial borrowers secured by stocks and bonds are, however, not so readily identifiable as, for example, are loans secured by inventories. The maturity of most business loans secured by stocks and bonds is over one year. Public utility, including transportation companies, sales finance companies, and manufacturing firms are the largest borrowers on security collateral. Government securities and listed stocks are the chief types of securities offered as collateral.

**Loans secured by inventories.** In fields such as manufacturing, wholesale trade, and retail trade where inventories of raw materials and finished goods comprise a large proportion of current assets, loans secured by inventories are an important source of funds. These loans are usually short-term since inventories are available as security only until they are processed or sold in the course of business. "Nearly nine-tenths of both the number and amount of member bank loans secured by inventories were written with maturities of less than six months."<sup>9</sup>

**Field Warehousing.** "Field warehousing is a type of inventory financing that has expanded in recent years to meet the problems involved in lending on varieties of inventory that are too bulky to be conveniently moved to an established warehouse or where ready and frequent access to the goods warehoused is essential. In field warehousing, arrangements are made to warehouse the goods on the premises of the borrower under appropriate controls. Thus, there is no transportation cost and the borrower can quickly add, with-

<sup>8</sup> Prochnow, Herbert V. and Foulke, Roy A., *Practical Bank Credit*, New York: Prentice-Hall, Inc., 1939, p. 28.

<sup>9</sup> *Federal Reserve Bulletin*, June 1947, p. 672.

draw, or substitute inventory as his operations require and the loan terms permit. The expense of installing and operating a field warehouse, which is borne by the borrower, is an additional item of financing cost in this type of loan.”<sup>10</sup> A survey of loans on field warehouse receipts<sup>11</sup> made in 1941 agrees with the 1946 survey of the Board of Governors that the largest business firms do not find it necessary to obtain commercial bank credit through the use of field warehouse receipts. Smith makes three additional observations concerning this type of loan: (1) that maturities range from demand notes to three years, (2) that only about 3 per cent of the member banks were engaging in field warehouse financing in 1946, and (3) that this is a more costly method of borrowing than most other methods.<sup>12</sup>

Bank loans on accounts receivable. Saulnier and Jacoby define accounts receivable financing as follows:

Accounts receivable financing may be defined as a continuing arrangement through which a financing agency makes funds available to a business concern by purchasing its invoices or accounts receivable over a period of time, or by making advances or loans, taking one or a series of assignments of accounts as primary collateral security. These arrangements are of two general types. The first—known as “factoring”—is conducted by factoring companies and involves the purchase by the factor of a concern’s accounts receivable, generally without recourse on the vendor for any credit loss on accounts and with notice given to trade customers that their accounts have been purchased. The second—known as “non-notification financing”—is conducted mainly by commercial finance companies and commercial banks and involves the purchase of receivables or their assignment as collateral security for a loan, without notice to the trade customer and without the assumption by the financing agency of the risk of credit loss on receivables sold or assigned.<sup>13</sup>

The same authors call attention to the legal conditions under which accounts receivable financing must be conducted by commercial banks, which in a number of states have retarded their activities.

<sup>10</sup> *Ibid.*, p. 672.

<sup>11</sup> Jacoby, Neil H. and Saulnier, Raymond J., *Financing Inventory on Field Warehouse Receipts*, copyright 1944 by National Bureau of Economic Research. By special permission of the publishers, p. 55.

<sup>12</sup> Smith, Tynan, *op. cit.*, p. 673.

<sup>13</sup> Saulnier, Raymond J. and Jacoby, Neil H., *Accounts Receivable Financing*, copyright 1943 by National Bureau of Economic Research. By special permission of the publishers, p. 1.

The most important is the problem of getting a valid assignment without giving notice to the assignor's trade customers. "In some states this is impossible; in others it involves procedures that make the operation unattractive. There are many states, however, in which the legal conditions are favorable and, in these states particularly, commercial banks are showing a rapidly growing interest in receivables financing. Furthermore, there is a tendency for more states to pass legislation to simplify the financing procedure."<sup>14</sup>

According to the compilations of Saulnier and Jacoby commercial banks financed open accounts receivable of approximately \$952 million in 1941.<sup>15</sup> However, this figure includes what they have called the "work-out" type of loan, by which is meant the taking of assignments of receivables to support loans previously made on some other basis. Excluding all such arrangements and including only those banks regularly engaged in making loans on accounts receivable on the merits of such loans, Saulnier and Jacoby estimated the volume of outstanding accounts receivable loans in insured commercial banks at the end of 1941 to be \$135 million.<sup>16</sup> Smith reports the volume of these loans for member banks on November 20, 1946, to be \$190 million.<sup>17</sup>

Equipment collateral for bank loans. Saulnier and Jacoby also studied, under the auspices of the National Bureau of Economic Research, the financing of equipment for commercial and industrial firms.<sup>18</sup> Comparing their estimates of bank loans on which title to equipment is pledged as collateral with the estimates reported by Smith, it is seen that this type of bank loan has grown greatly both in numbers of loans and in dollar volume. The survey of bank loans to business made by the Board of Governors and reported by Smith shows that equipment loans of member banks were in 1946 three times as great as those for all insured banks—a much greater number of banks—in 1941.<sup>19</sup> Table 18 indicates that member banks had on the date indicated loans on equipment of \$706 million, exclud-

<sup>14</sup> *Ibid.*, p. 3.

<sup>15</sup> *Ibid.*, pp. 3-4.

<sup>16</sup> *Ibid.*, p. 54.

<sup>17</sup> Smith, Tynan, *op. cit.*, p. 674.

<sup>18</sup> Saulnier, Raymond J. and Jacoby, Neil H., *Financing Equipment for Commercial and Industrial Enterprises*, copyright 1944 by National Bureau of Economic Research. By special permission of the publishers.

<sup>19</sup> Smith, Tynan, *op. cit.*, p. 674.

ing loans on plant, and that the number of such loans by these banks was 111,000. The fact that nonmember banks were not included in this survey is important because by far the greatest number of bank loans on equipment collateral are made to the small enterprises.

### TERM LENDING TO BUSINESS

"A 'term loan' is a loan to a business enterprise that is repayable, according to agreement between borrower and lender, after the lapse of more than one year."<sup>20</sup> Usually, the term loan agreement calls for serial or instalment payments by the borrower. Although many such loans are unsecured, especially the larger ones, they are based on careful analyses of the borrowers' financial positions and upon estimates of their probable earnings and the prospects of the industries in which the borrowers operate. Since this loan plan is designed to finance the diversified needs of borrowers, the purposes for which the borrowed funds are used are both commercial and investment in character.

According to the findings of a survey of business loans made by the Board of Governors of the Federal Reserve System and the Federal Reserve banks, member banks held in 1946 an estimated 144,000 term loans amounting to \$4.6 billion.<sup>21</sup> Other estimates made from the same sample survey indicated that loans with maturities of more than one year accounted for one-fifth of the number and one-third the dollar amount of all member bank loans outstanding to business concerns.

*Advantages of term loans to banks.* Holthausen has described the advantages of term loans as follows:

Term loans appear to be an outgrowth of and in some cases, a substitute for, two types of bank earning assets that are considerably less important today than they were 20 years ago. One is the short-term loan made with an informal understanding that it will be renewable as long as the borrower maintains a satisfactory credit standing. The other is the corporate bond or debenture held by banks as investments. Term loans, made under prescribed repayment plans, are generally sounder assets

<sup>20</sup> Jacoby, Neil H. and Saulnier, Raymond J., *Term Lending to Business*, copyright 1942 by National Bureau of Economic Research. By special permission of the publishers, p. 1.

<sup>21</sup> Holthausen, Duncan McC., "Term Lending to Business by Commercial Banks in 1946," *Federal Reserve Bulletin*, May 1947, p. 498.



than short-term notes made with the expectation that they would be renewable at maturity or than long-term corporate bonds or debentures repayable in lump sum at maturity. Although the amortization feature does not protect the lender from the fundamental credit weakness of a particular borrower, it does require advance planning of payments on the borrower's part and helps to maintain active turnover of the bank's loan assets.<sup>22</sup>

A further advantage of term loans to an individual bank is that it can participate with other banks under joint arrangements in a loan too large for any one bank to handle by itself. These participating agreements thus enable banks to meet the needs of borrowers, who in the absence of such arrangements would be forced to look to other money markets for funds to satisfy their medium-term credit needs; at the same time such loans diversify the portfolios of each of the participating lenders. In some cases, insurance companies are members of the term loan agreement and take up the longest term notes, in which case the borrower gives the lenders a series of notes that mature at different specified dates.

*Advantages of term loans to borrowers.* Large borrowers gain an advantage by borrowing on a term loan basis in that such loans can be procured at a low interest cost and involve no such expenses as registration fees required under the regulations of the Securities and Exchange Commission for the flotation of bonds. Since the larger term loans are usually unsecured, no pledge of collateral and no mortgage agreements are involved. These advantages may be offset in part in those term loans under which the borrower agrees to restrictive clauses, such as limitations on other long-term financing so long as the term loan is in effect.

The small borrowers under term loan agreements may not be large enough to justify financing through stock or bond issues. To them, the term loan represents about the only means of satisfying their credit needs for either working capital or for fixed capital purposes. For newly organized business firms, the term loan is an altogether satisfactory method of borrowing to acquire stock, equipment, etc. In the case of the smaller borrowers, the lenders usually require that the loans be secured by real estate or a chattel mortgage on equipment. In general, the flexible character of the term loan

<sup>22</sup> *Ibid.*, p. 500.

permits it to be adapted to the peculiar needs of each borrower and to the peculiar abilities of each lender.

## REAL ESTATE LOANS

Bank loans on real estate mortgages have played a much more prominent role in the history of banking in the United States than their present volume would indicate. In the early history of American banking, frequent overexpansion of real estate loans resulted in disaster to many banks and to many speculators. It is likely that these experiences furnish the explanation for the fact that the National Bank Acts of 1863 and 1864 did not authorize the national banks to make real estate loans. State banks and trust companies, however, were permitted to make such loans. In many rural districts these loans furnished the chief opportunity for banks to extend credit to customers on a secured basis, since commercial transactions were very limited in those areas. The Federal Reserve Act of 1913 and subsequent amendments to national banking laws permitted the granting of loans on real estate by national banks subject to certain regulations. These regulations specify the conditions under which national banks may purchase, hold and convey real estate and also specify the limits on the granting of real estate loans. These limits apply to the aggregate amount of such loans and to the security offered on each loan. A national bank may not lend on real estate mortgages in excess of its capital stock and surplus or in excess of 60 per cent of its time deposits, whichever is the greater. The limitations on individual loans specify that a national bank may lend up to 50 per cent of the appraised value of improved real estate provided the loans mature within five years, or up to 60 per cent of the appraised value on loans maturing within ten years, provided the loan contract calls for instalment payments sufficient to amortize 40 per cent of the loan within a period of not more than ten years. Some loans on real estate are exempt from these restrictions, such as short-term loans for the construction of farm and residential buildings. Certain loans insured or guaranteed by the Federal Housing Administration and the Veterans' Administration are also exempt from these regulations.

The volume of real estate loans of all insured commercial banks

exceeded \$7 billion by the end of 1946 as compared with \$4.7 billion in 1941, the highest level of the prewar period. That the commercial banks have been participating in the postwar real estate boom is borne out by the fact that over 25 per cent of nonfarm mortgages recorded in 1946 were made by commercial banks as compared with 19 per cent in the previous year, and by the fact that banks held in 1946 a larger proportion of farm mortgage debt than at any time in the previous 20 years.<sup>23</sup>

### BANK LOANS UNDER SERVICEMEN'S READJUSTMENT ACT

Loans under the Servicemen's Readjustment Act of 1944 may be insured or guaranteed. Under the "guaranty" provisions of the Act, losses on loans up to 50 per cent, not exceeding \$4,000 made by lending institutions to eligible veterans, are paid by the Veteran's Administration. Upon payment of the loan in full or upon release of the veteran from his obligation under the guaranteed loan, the guaranty ceases to exist. Under an "insured" loan arrangement, 15 per cent of the principal of the loan is set up as a credit to the lender's insurance account. This credit is cumulative. If loans are paid up without loss, the full credit remains to cover losses which may arise on future or existing loans. Payment of the loss on each loan is not restricted to a percentage of the loan as under a guaranteed loan, but is paid in full as long as there remains insurance credit to the lender's account.

The general purposes for which eligible borrowers may qualify for loans under the guaranty or insurance provisions of the Act are loans for the purchases of homes, and for all ordinary business and farming purposes. The maturity limitations depend on the purpose of the loan and its repayment provisions, extending up to 40 years for loans on real estate for farming operations.

### LOANS TO CONSUMERS

Participation of banks in the extension of credit to consumers may be both direct and indirect. If direct, it involves making single payment or instalment payment personal loans on an unsecured

<sup>23</sup> *Federal Reserve Bulletin*, March 1947, p. 241.

basis for all kinds of consumption purposes and financing of purchases of consumer durable goods on instalment terms with chattel mortgage security. If indirect, it involves discounting the notes of personal and sales finance companies, industrial banking companies, etc. Although we are here concerned primarily with the activities of commercial banks in the field of consumer credit, those activities are best treated with due regard for the activities of all lenders of consumption credit and the impact of those activities on the economy as a whole. Attention is, therefore, called to the major parts of total consumer credit and to some economic considerations involved in changes in the volume outstanding.

**Total consumer credit.** Statistical data concerning consumer credit were not readily available until a few years ago when the Board of Governors began to report in the *Federal Reserve Bulletin* comprehensive data on various classifications of consumer credit. These data include total consumer credit by major parts, consumer instalment loans, consumer instalment sale credit, consumer instalment credits of commercial banks, consumer instalment credits of industrial banks, consumer instalment credits of industrial loan companies, credit sales of furniture stores, and department store instalment sales and charge accounts. Some of these statistical series first reported in 1942, were extended back to 1929 and others to 1939.

Table 19 shows the volume of consumer credit by major parts from 1929 to April, 1947. These data reveal that the volume of consumer credit attained early in 1947 exceeded the previous high level of 1941. About 45 per cent (\$4,553 million) of total consumer credit (\$10,256 million) is repayable in instalments. Single payment loans and charge accounts comprise the bulk of the remainder.

**Consumer instalment credit.** Of the total consumer instalment credit outstanding in April 1947 (\$4,553 million), approximately 60 per cent (\$2,748 million) was in the form of loans, the remainder being sale credit. The classes of lenders of this volume of instalment loans are indicated in Table 20, which shows that commercial banks are the largest class of lenders on this type of loan. It is also seen that until 1935 or 1936 commercial bank participation in this type of loan was negligible. In the period 1935-1941, however, bank participation in all types of consumer loans expanded greatly. After a

TABLE 19

**TOTAL CONSUMER CREDIT, BY MAJOR PARTS**  
[Estimated amounts outstanding. In millions of dollars]

End of year or month	Total consumer credit	Instalment credit						Single- payment loans <sup>2</sup>	Charge accounts	Service credit
		Total instalment credit	Sale credit			Loans <sup>1</sup>				
			Total	Automobile	Other					
1929	7,637	3,167	2,515	1,318	1,197	652	2,125	1,749	596	
1933	* 3,919	* 1,595	1,122	459	663	* 473	776	1,081	467	
1937	7,491	3,971	2,752	1,384	1,368	1,219	1,504	1,459	557	
1938	7,064	3,612	2,313	970	1,343	1,299	1,442	1,487	523	
1939	7,994	4,449	2,792	1,267	1,525	1,657	1,468	1,544	533	
1940	9,146	5,448	3,450	1,729	1,721	1,998	1,488	1,650	560	
1941	9,895	5,920	3,744	1,942	1,802	2,176	1,601	1,764	610	
1942	6,478	2,948	1,491	482	1,009	1,457	1,369	1,513	648	
1943	5,334	1,957	814	175	639	1,143	1,192	1,498	687	
1944	5,776	2,034	835	200	635	1,199	1,255	1,758	729	
1945	6,638	2,365	903	227	676	1,462	1,520	1,981	772	
1946	10,166	3,976	1,558	544	1,014	2,418	2,262	3,054	874	
1947	13,385	6,156	2,839	1,151	1,688	3,317	2,697	3,612	920	

<sup>1</sup> Includes repair and modernization loans insured by Federal Housing Administration.

<sup>2</sup> Noninstalment consumer loans (single-payment loans of commercial banks and pawnbrokers).

\* Corrected. Source: *Federal Reserve Bulletin*, April 1948, p. 452.

period of decline during World War II, banks quickly expanded their consumer credit, as was true of all other lenders to consumers.

The figures in Table 20 concerning commercial bank participation in consumer instalment credit do not indicate total consumer credit extended by those banks. It has been estimated that single payment consumer loans by banks at the close of 1946 exceeded \$2,000 million, thereby indicating that total bank loans to consumers early in 1947 exceeded \$4,000 million.

Personal loan departments of commercial banks. In 1929 practically all bank instalment financing was in the hands of industrial banks, which derived their name from the fact that they were originally organized for the purpose of making consumption loans, generally repayable in instalments, to industrial workers. Often they are called "Morris Plan" banks because Arthur J. Morris, of Norfolk, Virginia, established in 1910 an industrial bank in Norfolk that became a model for the promotion of similar companies in other cities. Some of these industrial banks are affiliated with the Industrial Finance Corporation, a holding company which Morris and his associates organized in 1914. Most of them at the present time are not affiliated with this organization. Saulnier distinguishes industrial banks from other consumer lending institutions, not by their affiliation with the Morris Plan organization, but rather by the fact that they obtain the larger part of their loan funds through the sale of investment certificates.<sup>24</sup> These investment certificates serve, in those states where industrial banks are not permitted to receive deposits, as a means of accumulating savings. They are also used as a means of collecting payments on loans; the borrower in this case is required to purchase these certificates regularly until an amount sufficient to retire the loan is accumulated. The rates on these industrial loans are lower than those charged by loan sharks from whom borrowers likely would have borrowed had the industrial banks not been in existence. The promissory notes of the borrowers are usually discounted at a rate around 6 per cent, and they are required to repay the principal in weekly or monthly instalments. The effective rate of interest is, therefore, very nearly double the discount rate, since

<sup>24</sup> Saulnier, Raymond J., *Industrial Banking Companies and Their Credit Practices*, New York: National Bureau of Economic Research, 1940, pp. 12-14.

TABLE 20

## CONSUMER INSTALMENT LOANS [Estimates. In millions of dollars]

Year or month	Amounts outstanding (end of period)						Loans made by principal lending institutions (during period)						
	Total	Com- mercial banks <sup>1</sup>	Small loan com- panies	Indus- trial banks <sup>2</sup>	Indus- trial loan com- panies <sup>2</sup>	Credit unions	Miscel- laneous lenders	Insured repair and modern- ization loans <sup>3</sup>	Com- mercial banks <sup>1</sup>	Small loan com- panies	Indus- trial banks <sup>2</sup>	Indus- trial loan com- panies <sup>2</sup>	Credit unions
1929	652	43	263	219		32	95			463	413		42
1933	4 473	29	4 246	121		27	50			322	202		33
1937	1,219	258	374	221		93	125	148	368	662	409		148
1938	1,299	312	380	129	95	112	117	154	460	664	238	176	179
1939	1,657	523	448	131	99	147	96	213	680	827	261	194	257
1940	1,998	692	498	132	104	189	99	284	1,017	912	255	198	320
1941	2,176	784	531	134	107	217	102	301	1,198	975	255	203	372
1942	1,457	426	417	89	72	147	91	215	792	784	182	146	247
1943	1,143	316	364	67	59	123	86	128	639	800	151	128	228
1944	1,199	357	384	68	60	122	88	120	749	869	155	139	230
1945	1,462	477	439	76	70	128	93	179	942	956	166	151	228
1946	2,418	956	608	117	98	185	110	344	1,793	1,251	231	210	339
1947	3,317	1,358	712	166	134	269	120	558	2,537	1,454	310	282	497

<sup>1</sup> Figures include only personal instalment cash loans and retail automobile direct loans shown on the following page, and a small amount of other retail direct loans not shown separately. Other retail direct loans outstanding at the end of February amounted to 106 million dollars, and loans made during February were 16 million.

<sup>2</sup> Figures include only personal instalment cash loans, retail automobile direct loans, and other retail direct loans. Direct retail instalment loans are obtained by deducting an estimate of paper purchased from total retail instalment paper.

<sup>3</sup> Includes only loans insured by Federal Housing Administration.

Source: Federal Reserve Bulletin, April 1948, p. 452.

the only part of the principal the borrower has used for the entire period of the loan is the last instalment.

This brief description of the operations of industrial banks was undertaken because it serves to point out a field for the extension of credit into which commercial banks did not venture until some of them began to experiment with "personal loan" departments in the late 1920's. Although commercial banks had financed sales finance companies with instalment notes pledged as collateral, personal finance companies, and industrial banks, the feeling was widespread among commercial bankers that consumers' instalment credit was outside the traditional and rightful province of commercial banking. Although it doubtless is true that this type of credit is not commercial in character, the banks that experimented with personal loan departments for the purpose of handling instalment loans found these departments to be profitable, and they also found that the people of the community benefited by their existence.

The National City Bank of New York opened a personal loan department in 1928. Ten years later, the National Bureau of Economic Research estimated that 1,500 banks had consumer or personal loan departments. A study made by Baird of commercial bank activity in consumer instalment financing in 1946 indicates that consumer instalment paper held by banks is concentrated largely in 900 institutions each of which held \$200,000 or more of this paper.<sup>25</sup> Baird's impression is that \$200,000 of instalment loans is close to the minimum necessary to justify the maintenance of a separate consumer loan department. Nearly all banks, however, have some instalment paper. Moreover, many single payment loans, especially in small banks, by frequent renewals and more or less regular payments by the borrower of a part of the principal are virtually instalment loans.

In the smaller banks that handle some instalment paper, retail automobile paper accounts for the major part of the total. In the larger banks, more diversified instalment paper portfolios exist. Another difference in the consumer loan pattern of the smaller as compared with the larger banks is that in smaller banks the single payment loan is much more important than instalment paper while the

<sup>25</sup> Baird, Frieda, "Commercial Bank Activity in Consumer Instalment Financing," *Federal Reserve Bulletin*, March 1947, p. 265.



reverse is true of the larger banks. Baird's study indicates that, ". . . In the case of banks whose instalment paper amounted to less than \$20,000, there were \$6.00 of loans to individuals on a single-payment basis to every \$1.00 on instalment terms. For banks holding more than 5 million dollars of instalment paper, nearly \$2.00 out of every \$3.00 of total loans to individuals were represented by instalment notes." <sup>26</sup>

These studies would seem to indicate that many consumer borrowers from smaller banks have an advantage over similar borrowers for the same purposes from the larger banks, because the rates are lower on single payment notes than on instalment paper payable to a personal loan department. A borrower for consumption purposes from a bank with a personal loan department would likely be referred to that department to obtain credit accommodation, whereas a borrower for the same purpose from a bank without a personal loan department might get credit accommodation at a lower rate, say 5 per cent per annum.

Evidence points clearly to the decline of the settled aversion with which commercial bankers once regarded consumer credit, especially consumer instalment credit.

**Other consumer credit institutions.** The volume of business transacted annually by sales finance companies, personal finance companies, and credit unions justifies extended descriptions of their operations, but limitations on space in a book devoted to commercial banking forbids more than a definition of some of them.

*Sales finance companies* differ from other consumer credit institutions in that their principal operations involve the purchase of instalment notes and other consumer credit instruments from dealers, rather than the direct extension of loans to individuals for consumption purposes.

*Personal finance companies*, often called small loan companies, are organized under special state laws for the purpose of making loans of small amounts to individuals, mostly for consumption purposes.

*Credit unions* are cooperative associations of persons with strong bonds of mutual interest, such as the members of a trade union, the employees of a business firm, or the members of a fraternal order, who pool their savings in order to make loans to their own members.

<sup>26</sup> *Ibid.*, p. 266.

**Federal regulation of consumer credit.** By executive order of the President under authority of the Trading with the Enemy Act, the Board of Governors of the Federal Reserve System was authorized on August 9, 1941 to formulate regulations concerning the extension of consumer credit. The Board under this authority issued Regulation W. A long list of goods was brought under this regulation which specified the amount of the down payment that the seller must require the buyer to pay, and the length of time during which the remainder of the purchase price must be paid. In most cases, a down payment equal to one-third the "cash price" was required to be paid, and the remainder was required to be paid in twelve months. Charge accounts were also subject to regulations, as were the terms under which financial institutions might grant loans for consumption purposes. These regulations were continued in modified form after the war, until Congress in July, 1947, denied President Truman's recommendation that the Board of Governors be given peacetime powers to regulate the terms of consumer credit. Later, the Congress reinstated the Board's power to control instalment credit, effective September 20, 1948 and ending June 30, 1949.

The case against control over the volume of consumer credit and the terms on which it is extended rests mainly on the great and disturbing administrative problems involved. One need only glance at the numerous amendments to Regulation W, the minute interpretations of those amendments, and the multitude of decisions rendered concerning the application of the regulations to specific commodities and services to appreciate the administrative complexities of the task. The case in favor of control over consumer credits rests primarily on the fact that it is a strong element in determining the amplitude of the business cycle and that control over consumer credit offers some hope for reducing the severity of the fluctuations in business activity, employment, etc.

**Economic implications of consumer credit.** The statistical data that have been presented show that the volume of consumer credit increases in periods of prosperity and declines in depression periods. The explanation of this phenomenon seems to lie in the optimistic spirit of the people when employment and personal incomes are high. They freely spend their current incomes and freely incur mortgage liabilities against their future incomes. When personal incomes

and employment are low, people are reluctant to spend for goods and services except for the most necessary items, and are unwilling to mortgage their uncertain future incomes. Another consideration is that in periods of rising prices people are led by fears of still higher prices to purchase goods freely, while in periods of falling prices people are inclined to withhold purchases in the expectation that goods can be procured later at still lower prices.

The attitudes of lenders also accentuates the ups and downs of the volume of consumer credit. Almost all applications for loans seem good in periods of prosperity and almost all applications seem bad in periods of depression.

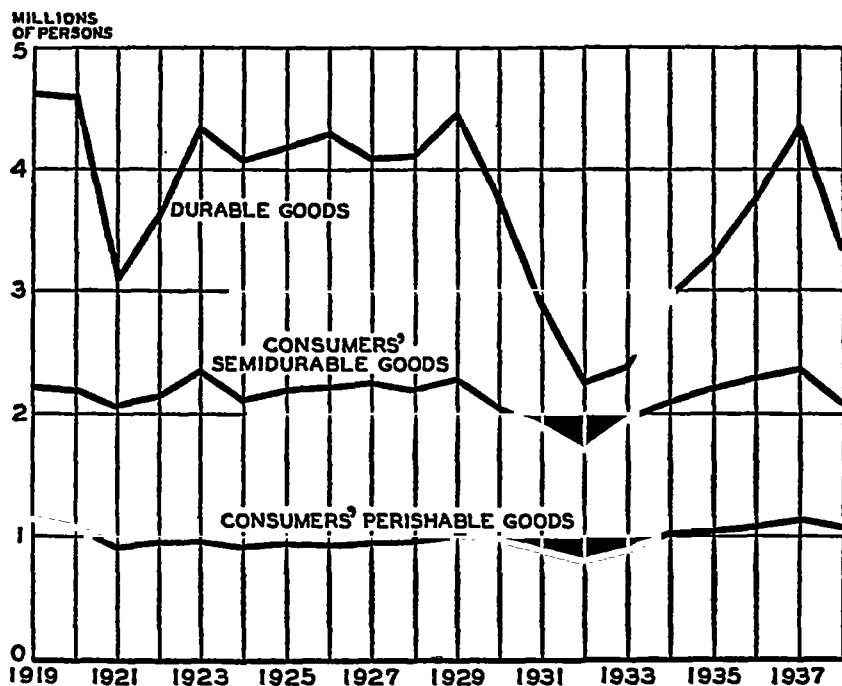
When, in periods of prosperity, such consumer credit as instalment loans is extended, a small amount of current income buys a considerably larger volume of goods. On the basis of a 10 per cent down payment, a hundred dollars will purchase a thousand dollars of goods. Hence easy credit terms might tend to concentrate in a short period of time demands which in the interests of stability of business and employment, it would be better to spread over a longer period. The concentration of consumers' credit purchases in periods of prosperity tends to increase the severity of the subsequent period of depression since the repayment of indebtedness previously contracted causes a severe drain on consumer incomes inducing a sharper curtailment of purchases of goods than otherwise would be the case. In other words, a high volume of consumer purchases on easy credit terms, such as small down payments and long-term instalment payments, increases the amplitude of the business cycle, which is harmful both to business and to consumers.

In view of these economic considerations, the case for control over consumer credit is a strong one. This is especially true in the area of instalment credit for the purchase of consumers' durable goods. In its *Annual Report* for 1946, the Federal Reserve Bank of New York observed that "—the major fluctuations in industrial employment over a number of years before the war were in the production of durable goods, rather than in the production of nondurable goods, even though consumer expenditures for nondurable goods usually are much greater than expenditures for durable goods."<sup>27</sup> It offered

<sup>27</sup> Thirty-second *Annual Report*, Federal Reserve Bank of New York, 1946, p. 35.

a diagram, reproduced here as Chart 6. This observation lends support to the proposition that control over consumer credit should be concentrated on durable goods, and should be so applied as to restrict purchases of those goods in periods when demands tend to outrun supply and to encourage greater purchases in periods when supplies pile up to cause factory shut-downs and unemployment.

Chart 6 NUMBER OF EMPLOYEES IN MAJOR GROUPS OF MANUFACTURING INDUSTRIES, 1919-1937



Number of employees reduced to equivalent number of full-time workers. Durable goods industries include construction material, furniture, and metals; consumers' semi-durable goods, textile and leather; consumers' perishable goods, food and tobacco.

Source: Simon Kuznets, *National Income and Its Composition, 1919-1938*, Vol. I, pp. 334-5; number of employees computed from percentage distribution by Federal Reserve Bank of New York.

Reproduced from *Annual Report*, Federal Reserve Bank of New York, 1946, p. 36.

### STUDY QUESTIONS

1. "According to the traditional theory of commercial banking, banks would derive little income from their investment holdings." Explain.
2. Explain how the following factors contribute to a net increase or decrease in nonbank holdings of currency and deposits: (a) Treasury net cash outgo. (b) an increase in bank loans. (c) a decrease in

nonbank holdings of U.S. securities. (d) an increase in bank holdings of other securities. (e) an increase in gold stock and foreign accounts.

3. Explain causes of the increase in bank loans immediately before the entrance of the United States into the second World War and immediately after the end of the war.
4. Contrast *customers'* loans and *open market* loans.
5. "Large borrowers for business purposes are more likely to borrow on an unsecured basis than are small borrowers." Do you agree? Explain.
6. "An unsecured loan is likely to be adequately secured." Do you agree? Explain.
7. What are advantages to commercial banks of each of the types of business loans described in this chapter?
8. What are the advantages of *term loans* to the borrowers?
9. Consult the tables in this chapter and classify the types of consumer credit and principal lenders on instalment contracts.
10. What considerations justify higher interest charges on instalment loans than on single payment loans?
11. Present the cases for and against the regulation of consumer credit. Why is the case for control over instalment credit for the purchase of consumers' durable goods stronger than the case for similar regulations concerning consumers' semidurable and perishable goods?

# CHAPTER

## 10

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### BANKS MAKE LOANS (*Continued*)

#### AGRICULTURAL LOANS

Farmers and farm owners receive financial assistance for so many purposes and from so many sources that it is difficult to describe adequately the nature of each of the purposes for which loans are sought and the scope of operations of lending agencies. Since a typical farm is both a household and a business enterprise, farmers seek loans for consumption purposes and for productive purposes, and frequently the two are intermingled. As far as sources of borrowed funds are concerned, farmers have access to many of the same agencies that are available to urban people and to agencies, both government and private, that specialize in the granting of loans to farmers.

The chief lenders to farmers are commercial banks, life insurance companies, federal agencies, individual investors, and privately owned farm mortgage companies.

Commercial bank loans to farmers. The condition reports of insured commercial banks classify loans for agricultural purposes as (1) real estate loans on farm lands, (2) loans to farmers directly guaranteed by the Commodity Credit Corporation, and (3) other loans to farmers, excluding real estate loans. Real estate loans on farm lands are today a much smaller proportion of total loans of commercial banks than two decades and more ago when they were a significant element in bank credit. Loans to farmers, other than real estate loans on farm land, are a more important type of bank credit than are the farm real estate loans. The loans of commercial

banks guaranteed by the Commodity Credit Corporation have declined in volume in recent years and no longer provide an important use for bank funds. On December 31, 1946, these three classes of loans employed bank funds as follows: <sup>1</sup> (1) real estate loans on farm land, \$684 million; loans to farmers directly guaranteed by the Commodity Credit Corporation, \$102 million; other loans to farmers, \$1,256 million.

Federal agencies operating in the field of farm finance. Although not all federal agencies operating in the field of farm finance have direct relationships with commercial banks, we shall briefly describe the most important of these agencies in order to give the reader an impression of the scope of their operations. The most important of these are the Commodity Credit Corporation, the Federal Land Bank System, the Federal Intermediate Credit Banks, the Production Credit Corporations, and the Federal Banks for Cooperatives.

*The Commodity Credit Corporation.* The Commodity Credit Corporation was first established by executive order of President Roosevelt on October 16, 1933 as a means of implementing the Agricultural Adjustment Act. After a series of changes in its structure and powers, the Corporation's status as an independent agency was terminated when, in 1943, it was placed under the War Food Administration within the Department of Agriculture. From time to time, Congress has augmented the capital of this Corporation by appropriations and has directed it to make loans on a long list of commodities. By making loans on these commodities as collateral, the farmers who borrow from it are in effect guaranteed a minimum price for each commodity equal to its loan value. This can best be explained in terms of an illustration: wheat producers in 1947 were privileged to borrow \$1.97 per bushel, using No. 1 wheat as collateral, or a lower price for lower-grade wheat. The loan value of \$1.97 was fixed by the Department of Agriculture as representing 90 per cent of the parity <sup>2</sup> price of wheat as of July 1, 1947. If the

<sup>1</sup> *Annual Report of the Federal Deposit Insurance Corporation*, 1946, pp. 124-125.

<sup>2</sup> The term *parity* refers to the relationship between the prices of farm products and the prices of nonfarm products in the period, 1909-1914. The purpose of determining parity prices and of making loans based on these prices is to maintain the purchasing power of the producers of farm products over nonfarm products at least equal to the purchasing power of farmers over nonfarm products in the base period.

market price of wheat should subsequently rise above the loan price, the borrower would sell his wheat and repay the loan, plus 3 per cent interest. Should wheat prices fall, the farmer would default on his loan and the lender would seize the collateral. Thus the producer is guaranteed 90 per cent of the parity price of the commodity he has pledged as collateral for a loan from the Commodity Credit Corporation, until such time as Congress might change the law under which the Corporation operates.

*The Federal Credit Administration.* In 1933, under the terms of an executive order of President Roosevelt, several existing federal institutions were made divisions of the Farm Credit Administration. Each of the principal divisions of this new body is headed by a commissioner. They are the Land Bank Commissioner, the Cooperative Bank Commissioner, the Intermediate Credit Commissioner, and the Production Credit Commissioner. Presiding over these four commissioners is the Governor of the Farm Credit Administration, who is directly responsible to the Secretary of Agriculture.

For administrative purposes the country has been divided into twelve districts in each of which is located a federal land bank, a bank for cooperatives, an intermediate credit bank, and a production credit corporation, as is shown in Figure 3. In each district a farm credit board exercises control over all four of these institutions.

*The Federal Land Bank System.* The oldest of the four institutions that have been mentioned is the Federal Land Bank System which was organized under the Federal Farm Loan Act of 1916. The original capital of the twelve banks, \$750,000 for each of them, was subscribed by the United States Treasury. This capital stock, together with additional capital stock and contributed surplus supplied by the Treasury in 1932, has been retired by all the Federal Land banks.

Although the Federal Land banks are empowered to make loans direct to farmers, most of the loans are made through the offices of national farm loan associations. These associations may be formed by ten or more farmers or farm owners who wish to borrow an aggregate amount not less than \$20,000. When properly organized, such an association receives a charter from the Farm Credit Administration. The borrower-stockholders of each association elects a board of directors, which appoints a president, a secretary-treasurer,





and a loan committee. The secretary-treasurer, who does most of the administrative work of the association, need not be a stockholder.

The operations of the national farm loan associations can best be explained by a typical negotiation of a loan agreement. Suppose a farm tenant, or other person, wishes to become a farm owner and that he has found a willing seller of a farm he would like to own. In order to arrange a loan, he first calls at the office of the local farm loan association and explains that the purchase price of this farm is \$20,000 and that he would like to borrow as much of this amount as possible. The loan committee of the association examines the application and investigates the security offered and the character of the prospective borrower. If the loan committee is satisfied, it recommends the loan to the association's board of directors. Should the board also be satisfied, the application is referred to the federal land bank of the district. The land bank, in turn, sends an appraiser to evaluate the property offered as security for the loan. Upon the appraised value of this property depends the amount that can under the law be loaned. The federal land banks can lend up to 65 per cent of the appraised normal value of the land and improvements. If in the assumed case the appraised value of the farm is \$20,000, the maximum loan that the federal land bank can make is \$13,500. If the buyer then pays the seller \$6,500, the federal land bank of the district grants the loan to the local association, which in turn pays the seller \$13,500. The land bank takes a first mortgage on the farm, assuming that no trouble is encountered concerning the transfer of title.

Also involved in the transaction is the obligation imposed on the borrower to subscribe to the stock of the loan association in an amount equal to 5 per cent of the loan. In the illustration used in this explanation of the lending operations of the federal land bank system, this amount is \$675. Usually, the borrower is granted a loan large enough to cover this obligation. Hence, our illustration, unless the borrower pays cash from other resources for this stock, must be modified to include this item. The amount of the loan would then be \$14,175 rather than \$13,500. The loan association in turn buys stock of the regional land bank in an equal amount. When the loan is retired the borrower's stock is surrendered and canceled and the association's stock in the land bank is reduced by the same amount.

In the final analysis, the stock of the land bank purchased by the farm loan association represents a guarantee fund held by the land bank, since the stock is forfeited to the extent that loans by the land bank to the association are unpaid. For example, if aggregate loans by the land bank to the association are \$500,000 the association must subscribe to \$25,000 of stock in the land bank. If unpaid loans are \$25,000 or more, the association forfeits all its stock in the land bank. In this case the solvent borrower who has repaid his loan to the association might recover little, perhaps nothing, of the purchase price (in our illustration, \$675) of the stock. In the absence of such losses, the borrower is repaid the purchase price of the stock when the loan is liquidated.

The source of funds of the federal land banks is the sale of their bonds in the regular investment banking channels. The bonds issued in recent years have been issued, not by any one of the federal land banks, but rather by the Federal Land Bank System. They are, therefore, the joint and several obligations of the twelve land banks. They are not guaranteed by the United States government, but they nevertheless have sold at rates only slightly higher than government securities with comparable maturities.<sup>3</sup>

*Loans of the Land Bank Commissioner.* In 1933, the Emergency Farm Mortgage Act made available to the Land Bank Commissioner a total of \$200,000,000 for the purpose of making loans to farmers who were unable to get adequate credit from the federal land banks. Later the funds made available through the office of the Commissioner were increased to \$800,000,000. The Land Bank Commissioner was empowered to make these loans on second mortgages. Usually, the loans granted by the Commissioner have shorter maturities than those granted by the federal land banks. Should the borrower in our illustration have wished to apply for a "commissioner's loan" as well as a land bank loan, it would have been permissible for the land bank to have granted a loan in the amount of \$7,500 with a maturity of forty years, and the Commissioner to have granted a loan of \$7,500 with a maturity of ten to twenty years.

<sup>3</sup> On July 31, 1947, bid and asked quotations on federal land bank bonds were as follows:

1½ coupon, October 1, 1950-48 maturity, bid 100.8/32 asked 100.12/32

1½ coupon, May 1, 1952-50 maturity, bid 100.4/32 asked 100.8/32

2½ coupon, February 1, 1955-53 maturity, bid 103.4/32 asked 100.8/32

*Cooperative Bank Commissioner's loans.* Under authority of the Farm Credit Act of June 16, 1933, a Central Bank for Cooperatives and district banks in each of the twelve farm credit districts were established. The purpose of this legislation was to supply farm cooperatives with both fixed and working capital. The original stock of the central bank and the twelve regional banks was subscribed by the United States government. The total assets of these banks for cooperatives is small compared with the federal land banks and the Commodity Credit Corporation, but the percentage of government participation compared with the total assets of the banks for cooperatives is large. On March 31, 1947, total assets of the banks for cooperatives was \$322 million and government interest in them was \$273 million.<sup>4</sup> The management of the central bank rests with a Cooperative Bank Commissioner, a board of directors selected by the Governor of the Farm Credit Administration from a list of candidates nominated by borrowing cooperative associations. The district banks are under the supervision of the district farm credit board.

*Federal Intermediate Credit banks.* The federal intermediate credit banks make no direct loans to farmers. They are, however, an important source of funds for commercial banks, the banks for cooperatives, the production credit associations, and other institutions that extend credit to farmers, since these institutions are permitted to rediscount paper with the Federal intermediate credit banks. On March 31, 1947 these banks, twelve in number, had total assets of \$388 million, consisting of \$326 million loans receivable, \$16 million cash, \$43 million government securities, and \$3 million other assets. Their liabilities consisted of \$349 million of debentures, \$37 million indebtedness to the United States government, and \$2 million other liabilities.<sup>5</sup> The chief source of funds is the sale of their debentures in the open market. These obligations are short-term obligations, most of them maturing in 6 to 9 months after date of issue, that enjoy a good market. The rates on them, at the present time, range from 1.00 per cent to 1.10 per cent. The rate of discount charged on paper presented to these banks must not exceed, except by permission of the Governor of the Farm Credit Administration, by more

<sup>4</sup> *Federal Reserve Bulletin*, July 1947, p. 892.

<sup>5</sup> *Federal Reserve Bulletin*, July 1947, p. 892.

than one per cent the rate paid on their most recent issue of debentures.

*Production Credit Corporations.* The purpose of the production credit corporations, which are located one in each of the farm credit districts, is to assist farmers to establish production credit associations, not to make loans. The production credit corporations are wholly owned by the federal government. On March 31, 1947, the assets of these corporations was \$113 million, consisting of \$1 million cash, \$68 million government securities, and \$43 million other securities. Their liabilities consisted of obligations to the United States Government in the amount of \$113 million.<sup>6</sup>

Production credit associations may be formed by ten or more farmers who wish to borrow for short-term or intermediate-term purposes, such as the purchase of feeder cattle, the purchase of farm machinery, the repairing and improving of farm buildings. The borrowers become stockholders in proportion to the amount borrowed and have voting rights in the choice of the directors of their association. Most of the loans are repayable in instalments and bear interest at the rate of  $4\frac{1}{2}$  per cent. The chief source of funds of these associations is the proceeds of paper rediscounted with the intermediate credit banks.

## URBAN MORTGAGE FINANCING

Data concerning the volume of the real estate loans of commercial banks have previously been presented. These data show that loans for the construction and acquisition of homes and other property have been available from banks to persons who have wished to acquire such property. Other sources of loans for these purposes are private lenders, mortgage companies, insurance companies, savings and loan associations, etc. These private sources of real estate credit have proved inadequate, especially in periods of depression. Until the depression of the 1930's, each period of slump in the real estate market was allowed to run its course until market interest rates, prices for building materials, rents, etc., became adjusted in such manner as to encourage another period of expansion in building. In 1932, steps were taken by the federal government to assist institu-

<sup>6</sup> *Federal Reserve Bulletin*, July 1945, p. 892.

tions operating in the field of real estate finance to meet the need for more and better urban housing. These activities were greatly expanded in subsequent years. During the war years 1941-1945 these activities were concentrated on providing houses for workers in war plants, and after the war, on providing houses for veterans.

In 1942, for the purpose of coordinating the activities of the many federal agencies concerned with real estate finance, President Roosevelt created by executive order the National Housing Agency to which was transferred most of the records and property of the existing federal agencies operating in this field. In outline form, the principal federal agencies may be presented as follows:

National Housing Agency: <sup>7</sup>

Federal Home Loan Bank Administration:

Federal Home Loan Banks

Federal Savings and Loan Insurance Corporation

Home Owner's Loan Corporation

Federal Public Housing Authority, and affiliate:

Federal Public Housing Authority

Defense Homes Corporation

Federal Housing Administration

Federal National Mortgage Association

R.F.C. Mortgage Company

Limitations on space forbid a description of all the organizations, operations, and management of each of these agencies.<sup>8</sup> Since commercial banks are most directly concerned with the Federal Housing Administration, the management and operations of this agency, as they existed in 1946, are briefly described.

**The Federal Housing Administration.** The Federal Housing Administration was established under provisions of the National Housing Act of June 27, 1934. Although the F.H.A. does not make loans, its operations, especially those relating to the insurance of mort-

<sup>7</sup> The *Housing and Home Finance Agency* was created in July, 1947 to replace the *National Housing Agency*.

<sup>8</sup> The readers who are interested in obtaining current information concerning the agencies listed are referred to such publications as the *Annual Report of the Federal Home Loan Bank Board*, the *Federal Home Loan Bank Review*, *Annual Report of the Federal Housing Administration*, and the *Treasury Bulletin*.

TABLE 21  
INSURED FHA HOME MORTGAGES (TITLE II) HELD IN  
PORTFOLIO, BY CLASS OF INSTITUTION  
[In millions of dollars]

End of month	Total	Com- mercial banks	Mutual savings banks	Savings and loan associa- tions	Insur- ance com- panies	Federal agencies <sup>1</sup>	Other <sup>2</sup>
1936—Dec.	365	228	8	56	41	5	27
1937—Dec.	771	430	27	110	118	32	53
1938—Dec.	1,199	634	38	149	212	77	90
1939—Dec.	1,793	902	71	192	342	153	133
1940—Dec.	2,409	1,162	130	224	542	201	150
1941—June	2,755	1,318	157	237	668	220	154
Dec.	3,107	1,465	186	254	789	234	179
1942—June	3,491	1,623	219	272	940	243	195
Dec.	3,620	1,669	236	276	1,032	245	163
1943—June	3,700	1,700	252	284	1,071	235	158
Dec.	3,626	1,705	256	292	1,134	79	159
1944—June	3,554	1,669	258	284	1,119	73	150
Dec.	3,399	1,590	260	269	1,072	68	140
1945—June	3,324	1,570	265	264	1,047	43	134
Dec.	3,156	1,506	263	253	1,000	13	122
1946—June	3,102	1,488	260	247	974	11	122
Dec.	2,946	1,429	252	233	917	9	106
1947—June	2,860	1,386	245	229	889	8	102

<sup>1</sup> The RFC Mortgage Company, the Federal National Mortgage Association, the Federal Deposit Insurance Corporation, and the United States Housing Corporation.

<sup>2</sup> Including mortgage companies, finance companies, industrial banks, endowed institutions, private and State benefit funds, etc.

NOTE.—Figures represent gross amount of mortgages held, excluding terminated mortgages and cases in transit to or being audited at the Federal Housing Administration.

Source: *Federal Reserve Bulletin*, April 1948, p. 443.

gages held by private lending agencies, have been highly significant. Except for its existence, much investment capital that has gone into the real estate field would likely have been withheld from such use.

*Insurance of modernization loans.* Under Title I of the National Housing Act, the F.H.A. may insure the loans of eligible lending

agencies, such as commercial banks, savings banks, and saving and loan associations. Loans eligible for insurance under this provision include those for the repair and improvement of residential property and loans for the construction of small homes and farm buildings. The volume of such loans is indicated in Table 22.

Maturities run from about three to twenty-five years, depending on the purpose of the loans.

The lending institutions are required to pay the F.H.A. an insurance premium of 0.75 per cent for protection against losses on loans for property improvements and 0.50 per cent on loans for small homes construction. The insurance protection extends to 10 per cent of total loans made for these purposes. To clarify this last statement, let us assume that a commercial bank has fifty such loans totaling \$100,000. It would be reimbursed up to \$10,000 for losses on these loans, which amount might be adequate to cover all losses sustained by any one bank.

*Mortgage insurance under Title II.* As indicated in Table 22, the insurance of mortgage loans on a 1- to 4-family unit has in most years surpassed in volume the insurance of loans for property improvement. In the case of one family dwellings to be occupied by the owners, loans of \$5,400 or less representing no more than 90 per cent of the appraised value are insurable. Also insurable are loans up to \$8,600 on single-family dwellings to be occupied by the owners, provided they represent no more than 90 per cent of appraised value up to \$6,000 and 80 per cent of appraised value over \$6,000. Loans of \$16,000 are insurable on property—not necessarily occupied or to be occupied by the owners—designed for not more than four families, and are not made in excess of 80 per cent of the appraised value. Maturities on these loans may run from four to twenty-five years. Borrowers are required to pay monthly installments covering amortization of the principal, interests, taxes, special assessments, if any, and insurance. The insurance premiums of 0.5 per cent of the outstanding principal are paid into a special fund out of which payments on claims for losses are made.

*Insurance on rental and group housing projects.* Title II also authorizes the insurance of mortgage loans for the construction of rental and group housing projects undertaken by private corporations or government agencies. The loans must not exceed \$5,000,000



**TABLE 22**  
**LOANS INSURED BY FEDERAL HOUSING ADMINISTRATION**  
 [In millions of dollars]

Year or month	Total	Title I Loans		Mortgages on		
		Prop- erty im- prove- ment <sup>1</sup>	Small home con- struc- tion	1- to 4- family houses (Title II)	Rental and group housing (Title II)	War and Vet- erans' housing (Title VI) <sup>2</sup>
1937	489	54		424	11	
1938	684	151	13	473	48	
1939	950	204	25	669	51	
1940	1,017	242	26	736	13	
1941	1,172	249	21	877	13	13
1942	1,137	141	15	691	6	284
1943	935	87	1	<sup>4</sup> 245	( <sup>3</sup> )	<sup>4</sup> 603
1944	875	114		216	7	537
1945	666	171		219	4	272
1946	755	321	( <sup>3</sup> )	347	3	85
1947	1,787	534	( <sup>3</sup> )	446		808
1947—February	74	35	( <sup>3</sup> )	27		13
March	81	35		28		18
April	110	45	( <sup>3</sup> )	33		33
May	107	37	( <sup>3</sup> )	36		34
June	146	44		39		63
July	163	50	( <sup>3</sup> )	39		74
August	175	43	( <sup>3</sup> )	37		95
September	183	46	( <sup>3</sup> )	41		96
October	244	46	( <sup>3</sup> )	48		150
November	192	47	( <sup>3</sup> )	39		106
December	228	68	( <sup>3</sup> )	48		112
1948—January	224	56	( <sup>3</sup> )	48		120
February	228	45	( <sup>3</sup> )	45		137

<sup>1</sup> Net proceeds to borrowers.

<sup>2</sup> Mortgages insured under War Housing Title VI through April 1946; figures thereafter represent mainly mortgages insured under the Veterans' Housing Title VI (approved May 22, 1946) but include a few refinanced mortgages originally written under the War Housing Title VI.

<sup>3</sup> Less than \$500,000.

<sup>4</sup> Correction.

NOTE.—Figures represent gross insurance written during the period and do not take account of principal repayments on previously insured loans. Figures include some reinsured mortgages, which are shown in the month in which they were reported by FHA. Reinsured mortgages on rental and group housing (Title II) are not necessarily shown in the month in which reinsurance took place.

Source: *Federal Reserve Bulletin*, April 1948, p. 443.

nor more than 80 per cent of the appraised value and the project must be judged by F.H.A. to be "economically sound." The insurance premium is 0.5 per cent of the outstanding principal of the loans and is paid into a special fund from which claims of losses are paid.

*Insurance of loans for war housing.* During the war years, loans on projects for the building of houses needed for war workers and veterans were granted, provided the projects were an acceptable risk in view of the war emergency, and provided further that the loans were not in excess of 90 per cent of the appraised value.

*Source of funds of the Federal Housing Administration.* One constant source of funds available to the F.H.A. is the premium payments that have been mentioned. Another was the initial contribution of the United States Treasury to the Mutual Mortgage Insurance Fund, against which losses on Title II loans are assessed. A third source is the issuance of debentures which may be given to the lending institutions in exchange for the title to the foreclosed property of a borrower who has defaulted on his loan. These debentures are fully guaranteed as to principal and interest by the United States Government, and bear interest at the rate of 2.75 per cent.

*Volume of F.H.A. mortgages held by commercial banks.* Table 21 indicates that commercial banks and insurance companies are the largest holders of mortgages insured under Title II of the National Housing Act. Doubtless most of the loans represented by these mortgages are good loans since the inspection procedures of the F.H.A. have been quite rigorous concerning the quality of construction, location, etc., of dwellings, and the insurance feature of these loans has offered considerable protection against losses. It may be, however, that despite these protective elements, loans up to 90 per cent of appraised values in periods of inflated values will create a situation not unfraught with danger, since some property holders will carry over into a subsequent period of deflation a higher volume of indebtedness than they will then be able to carry. The trend in property values has been one of increase since the creation of the F.H.A. and other agencies designed to facilitate real estate mortgage financing. The soundness of these loans has not as yet been thoroughly tested in a long period of deflation.

## THE OPEN MARKET FOR LOANABLE FUNDS

In its broadest sense, the term "money market" is used to denote all the available facilities for borrowing and lending of money. In this sense it includes the market for long-term as well as for short-term borrowing and lending, whether these transactions are consummated in the open market, which is characterized by impersonal relationships between borrowers and lenders, or in the customers' market provided by the commercial banks wherein personal relationships characterize loan agreements. Nevertheless, the term "money market," when used without qualification, usually denotes the open market. It is in this narrower sense that the term is here used. Moreover, it shall be used as meaning the market for short-term funds, since terms such as the "investment market" or the "bond market" are commonly used to denote the market for long-term funds.

The most important divisions of the short-term open market are those in which transactions in commercial paper, bankers' acceptances, and loans on stock exchange collateral are made. Each of these has its institutional arrangements which shall be described briefly. Discussion of short-term government securities is deferred to the following chapter.

The connection between commercial banks and the short-term open market is found in the fact that banks purchase paper arising in this market because of its excellent quality and because it provides a means whereby banks can diversify their loan portfolios. It should be understood that the buyers of this open market paper are the lenders and that the issuers are the borrowers, while those who provide the facilities for bringing buyers and sellers together are middlemen in the transactions.

**The commercial paper market.** The term "commercial paper" has been used indiscriminately in the parlance of the money market. Sometimes it is used to describe all paper arising from lending operations that are not investment in character. Another definition limits the use of the term to obligations, mostly in the customers' market, arising from productive, self-liquidating business operations, such as loans made for the purpose of buying raw materials. A third definition, which is adopted for use here, limits the use of the term to

short-term promissory notes of business firms which are handled by commercial paper houses.

Commercial paper consists of promissory notes of business firms, usually large well-known corporations, which want to borrow for short periods for working capital purposes. These notes, which are issued in various denominations, are usually unsecured and are made payable to the borrowing corporation. The most common denomination is \$5,000. The arrangement whereby the notes are made payable to "ourselves" makes possible their negotiation without indorsement. They are handled on a discount basis, that is, the purchaser acquires them at the prevailing rate of discount and collects the face value at maturity date.

*The commercial paper house.* The modern commercial paper house is an outgrowth of the operations of note brokers who responded to a definite economic need in the early years of the nineteenth century. These note brokers took advantage of the opportunity of acting as middlemen for merchants and traders who could not obtain adequate credit accommodations in their home communities. The banks of these communities, particularly at certain seasons of the year, could not extend all the credit that businessmen needed. Since it was often impossible or inconvenient for these businessmen personally to arrange for loans from banks in other areas, the note brokers, for a commission, would undertake to find lenders or buyers for their notes and bills. The note brokers as their name implies, did not purchase or guarantee the notes and bills which they handled; they acted merely as intermediaries between borrowers and lenders. In event of the inability on the part of the note brokers to find buyers for particular notes, they would return them to the borrower.

Gradually, as trade and commerce grew in volume and reached out to areas more distant from the financial centers, the commercial paper house, with its more elaborate organization, superseded the note brokers in the performance of the important function of bringing the suppliers of short-term funds into contact with persons or business firms that needed funds.

Some commercial paper houses assumed functions which the earlier note brokers did not or could not assume. One of these functions was the outright purchase of certain issues of commercial

paper. In other words, they became merchants or *dealers* in commercial paper. They also served as financial advisers to their borrowing customers. These activities may be regarded as banking functions. More recently, however, many commercial paper houses have reverted to the older practice and have become once again mere brokers of commercial paper.

*Requisites for borrowing in the open market.* Since the vast majority of promissory notes sold in the open market are single-name, unsecured notes, it follows that the makers must be good credit risks. Small business firms cannot sell their notes in the market because their credit standing is not well known, and they do not need sufficient amounts to justify the work which a commercial paper house must do in order to put the paper out in the market. It has been estimated that the average open market borrowings per concern must exceed \$200,000 to be profitable. Many commercial paper houses dislike to handle paper of less than this amount.<sup>9</sup>

In addition to the size factor, the commercial paper house must consider numerous other factors in arriving at a decision concerning the credit risk of a prospective borrower in the open market. Among these are the following:

1. The use to which the funds will be applied, whether for current operations or for investment purposes.
2. The current position of the prospective borrower.
3. The earnings record of the company in relation to total volume of business, capital-investment, etc.
4. The type of product which the borrower handles, whether stable or not; whether the goods are subject to rapid price changes or not.
5. Whether the borrower is engaged in manufacturing or trading, rather than in the sale of services.

*Advantages and disadvantages of open-market borrowing.* Greef lists the following advantages of open-market financing from the point of view of the borrower:<sup>10</sup>

1. The cost of raising short-term capital in the open market is ordinarily less than that of borrowing from banks direct.
2. The ability to sell its notes through dealers in a market that is nation-

<sup>9</sup> Greef, Albert O., *The Commercial Paper House in the United States*, Cambridge: Harvard University Press, 1938, p. 237.

<sup>10</sup> Greef, Albert O., *The Commercial Paper House in the United States*, Cambridge: Harvard University Press, 1938, pp. 253-263.

wide gives a company a certain amount of bargaining power in dealing with its own banks.

3. If properly coordinated with direct borrowing from banks, open market financing enables a borrowing concern to "clean up" its bank loans at more or less regular intervals.
4. It enables concerns whose own banks are unable to supply the full amount of their credit requirements to obtain the additional accommodations they need in a market that is nationwide.
5. It is more convenient to borrow from banks indirectly through a single commercial paper house than to establish lines of credit with several banks in different parts of the country.
6. Open market borrowers are able to obtain valuable financial advice from their dealers.
7. Companies which continually maintain a credit position strong enough to enable them to borrow through dealers acquire financial prestige and obtain favorable publicity in all sections of the country in which their notes are purchased.
8. A concern which, by selling its notes, through dealers, has shown its ability to obtain unsecured short-term loans from banks in all sections of the country is in a favorable position for raising such long-term capital as it may require from time to time.

Among the alleged disadvantages of open market borrowing, which Greef believes to be either "nonexistent or of little consequence," are the following:

1. A concern borrowing in the open market may become independent of its bankers, be deprived of their counsel, and consequently over-expand its business.
2. A company which borrows heavily in the market, to the neglect of proper banking connections is almost certain to encounter financial difficulties in times of panic and uncertainty.
3. It is sometimes more convenient for borrowing concerns to deal directly with their local banks than with a commercial paper house.
4. Companies which borrow through commercial paper houses are subjected to the inconvenience and expense of answering innumerable credit inquiries from prospective and actual buyers of their paper, and to the possibility that their credit may be impaired by false rumors arising from such inquiries.
5. If a concern in any particular industry becomes financially embarrassed, country banks which have purchased substantial amounts of open market obligations in the immediately preceding years will often refuse to buy paper issued by other concerns in the same industry.
6. Commercial paper houses interfere with the management of their borrowing customers' business.

Greef concludes his study of the commercial paper house in the United States with the following statement:

From the point of view of individual commercial banks the only important disadvantage of this system at present is that dealers enter into direct competition with them in advancing short-term loans to concerns with high credit standing. Strictly speaking, the competition in question is really not between dealers and banks, but, rather, between banks wishing to make direct loans to borrowing concerns and those willing to make somewhat safer indirect advances to the same concerns at correspondingly lower rates. The ultimate lenders in the commercial paper market, in other words, are the commercial banks themselves, and no commercial paper can be sold to these banks which they are not willing of their own accord to purchase. . . . The conclusion seems warranted that the only important disadvantage of the open-market system of financing from the point of view of individual banks is greatly outweighed by its advantages to the banking system as a whole.<sup>11</sup>

*Decline of the commercial paper business.* As compared with the period following the first World War, the volume of commercial paper has declined. In 1924, the volume outstanding was \$798 million; in 1929, \$334 million; in 1932, \$81 million; and May, 1947, \$250 million. These figures reflect changes in business activity and changes in methods of financing business operations from time to time.

In recent years, commercial banks have competed somewhat more successfully with open market sources for loanable funds by reason of lower rates on bank loans to business and a greater willingness on the part of commercial banks directly to meet all types of credit needs of business. Bank purchases of open market paper results in an indirect advancement of bank funds to business, since, as has previously been mentioned, the purchaser of open market paper is the lender in the transaction. Hence, banks that continue to hold open market paper in their loan portfolios, do so chiefly as means of diversifying their loans, some of them being unable to do so by direct loans to customers. A bank in a one-industry town, for example, can diversify its loan portfolios by buying commercial paper that originates in other geographical areas where other industries

<sup>11</sup> Greef, Albert O., *The Commercial Paper House in the United States*, pp. 413-414, *passim*. Reprinted by permission of the President and Fellows of Harvard College.

are predominant. Thus, despite the fact that the commercial paper business has declined and that banks are exerting efforts to compete more favorably with the open market as a source of funds available to business, open market paper serves a useful purpose from the point of view of the commercial banker, for it provides a means whereby he can indirectly make loans to far-flung business concerns which he cannot make by direct loan negotiations.

TRADE ACCEPTANCE	No. _____	_____ 12
	To _____	_____
	On _____	Pay to the order of _____
	Dollars (\$ _____)	
	<i>The obligation of the acceptor hereof arises out of the purchase of goods from the drawer. The drawer may accept this bill payable at any bank, banker or trust company in the United States which he may designate.</i>	
	Accepted at _____ on _____	12
	Payable at _____	Bank
	Bank Location _____	_____
	Accepted Signature _____	_____
	By _____	By _____

Fig. 4 TRADE ACCEPTANCE

The market for acceptances. Two types of acceptances are used in the extension of credit to buyers of merchandise, namely trade acceptances and bankers' acceptances; both are drafts drawn by one party upon another party, which draft is accepted by the second party. The acceptance by the second party indicates an obligation to pay a certain sum of money at a designated place and at a designated time. The difference between them is that the trade acceptance is drawn on the purchaser of goods, while a banker's acceptance is drawn against a bank. The trade acceptance, if its negotiability is not to be impaired must contain such legend as that indicated in Figure 4 which reads: "The obligation of the acceptor hereof arises out of the purchase of goods from the drawer. The drawer may accept this bill payable at any bank, banker or trust company in the United States which he may designate." Should the draft contain such language as, "maturity being in conformity with the original terms of the purchase," its negotiability is doubtful.

Trade acceptances, despite the fact that they furnish an efficient means of financing mercantile transaction, have not been used widely in the United States; the open book account is much more



widely used. To the extent that trade acceptances are used, their usage can be illustrated as follows: The Smith Company orders goods from The Brown Company, the former agreeing to accept a draft with a maturity of 60 days drawn by the latter. The Smith Company, upon receipt of the goods, indicates its acceptance of the draft by a signature at a place designated on the instrument or by writing the word "accepted" followed by a signature across the face of the instrument. The Brown Company can then discount this draft at its bank.

An objection to the trade acceptance method of financing sales of goods has been found in the fact that the seller's bank has, when it discounts the acceptance, extended credit indirectly to a distant buyer of goods. This objection, which is not a very important one, rests on the assumption that it is more appropriate for the buyer's bank to extend credit for the purchase of the goods, since that bank is closer to the recipient of the credit.

*Origin of bankers' acceptances.* Bankers' acceptances originate chiefly in financing international trade. In April 1947, the amount of bankers' acceptances outstanding was \$215 million. Of this amount, \$140 million are based on imports into the United States, \$42 million were based on exports from the United States, and \$33 million on goods stored in or shipped between points in the United States and foreign countries. In 1929, the volume outstanding was \$1,732 million.

An illustration best describes the origin of a banker's acceptance. Let us say that a New York firm wishes to buy goods from a British firm on 90 days credit. The New York firm first arranges that a letter of credit be issued by a New York bank in favor of the British exporter, which instrument authorizes the exporter to draw a draft against the New York bank. The British firm then delivers the goods to the transportation company and receives a bill of lading. When the draft against the New York bank is checked against the letter of credit and the bill of lading, a London bank, let us say, is willing to discount the draft and to serve as the collection agency on the instrument. The next step is the transmittal of the letter of credit, bill of lading and the discounted draft by the London bank to its New York correspondent, which, in turn, presents these instruments to the bank that issued the letter of credit. When the issuer of the letter of credit

accepts the draft, it becomes a banker's acceptance. The bill of lading may then be given to the importer in exchange for a trust receipt, by which the bank receives a first claim upon the funds received in case of sale of the goods involved in the transaction.

Figures 5, 6, and 7, are photostatic copies, respectively, of a banker's acceptance, a letter of credit, and a trust receipt.

*Buyers of bankers' acceptances.* Prior to the passage of the Federal Reserve Act, national banks were not permitted to accept time drafts drawn against them, and as a result much of our foreign trade was financed through the money markets of other countries, especially the London money market. Since 1913 the Federal Reserve System has actively promoted the development of an acceptance market in the United States. The Federal Reserve Act not only permitted the national banks to accept drafts; it also permitted the Federal Reserve banks to buy them and thus to furnish a market for them. The Federal Reserve banks have stood ready at all times to buy any quantity of acceptances offered to them at a specified buying rate that is changed from time to time in accordance with conditions in the money market and with the credit situation. Reserve banks may take the initiative in buying and selling acceptances in the open market, but they seldom have done so. They have preferred most generally to serve as an overflow market for acceptances so that dealers might choose to sell to them when other outlets do not absorb the entire supply, and to exert whatever influence they wish to exert on the market by changing the Federal Reserve buying rate.

Acceptances are bought on a discount basis by acceptance houses and dealers in the expectation that they can be sold at somewhat lower rates of discount than the rates at which they were bought. The influence of the buying rate of the Reserve banks is seen in the rates offered and quoted by the acceptance houses and dealers, because holders will not sell them in the open market at rates of discounts that exceed the Reserve banks' buying rate. Since the Reserve banks seldom, if ever, resell acceptances that they have purchased, investing institutions such as banks and trust companies must decide whether to buy at the rates established by the acceptance houses and dealers. The influence of the Reserve banks' buying rate is, therefore, exerted chiefly in fixing the maximum rate at which they are

\$	Minneapolis, Minn.	VICE-PRES.	Pay to
BANK	NEW YORK CITY	FIRST NATIONAL BANK	the order of First National Bank and Trust Company of Minneapolis, Minn.
PAYABLE AT	BANK	NEW YORK CITY	Dollars
ACCEPTED	BANK	NEW YORK CITY	Value received and charge the same to account of
FIRST NATIONAL BANK	NEW YORK CITY	AND TRUST COMPANY	To First National Bank and Trust Company
OF MINNEAPOLIS	MINNEAPOLIS, MINN.	17-2	Minneapolis, Minn. 17-2
PAYABLE IN NEW YORK	F 90		

Fig. 5 THE BANKER'S ACCEPTANCE

# FIRST NATIONAL BANK

OF MINNEAPOLIS

AMOUNT \_\_\_\_\_ MINNEAPOLIS, MINN., \_\_\_\_\_

IRREVOCABLE COMMERCIAL LETTER OF CREDIT NO. \_\_\_\_\_

TO \_\_\_\_\_

WE HEREBY AUTHORIZE YOU TO VALUE ON \_\_\_\_\_

AT \_\_\_\_\_ SIGHT FOR ANY SUM OR SUMS NOT EXCEEDING A

TOTAL OF \_\_\_\_\_

FOR ACCOUNT OF \_\_\_\_\_

FOR \_\_\_\_\_ INVOICE VALUE OF \_\_\_\_\_

NON-NEGOTIABLE COPY

THE DRAFTS DRAWN UNDER THIS CREDIT ARE TO BE ENDORSED HEREON AND MUST BEAR THE CLAUSE "DRAWN UNDER THE FIRST NATIONAL BANK OF MINNEAPOLIS CREDIT NUMBER \_\_\_\_\_ DATED \_\_\_\_\_

WE HEREBY AGREE WITH DRAWERS, ENDORSERS, AND BONA FIDE HOLDERS OF DRAFTS DRAWN UNDER AND IN COMPLIANCE WITH THE TERMS OF THIS CREDIT THAT THE SAME SHALL BE DULY HONORED UPON PRESENTATION AT \_\_\_\_\_

IF DRAWN AND NEGOTIATED ON OR BEFORE \_\_\_\_\_

FIRST NATIONAL BANK OF MINNEAPOLIS

\_\_\_\_\_  
AUTHORIZED SIGNATURE

\_\_\_\_\_  
AUTHORIZED SIGNATURE

F16-22

Fig. 6 THE COMMERCIAL LETTER OF CREDIT

## TRUST RECEIPT UNDER COMMERCIAL LETTER OF CREDIT

LOS ANGELES, CALIFORNIA, JULY 15, 1940

Received, upon the trust hereinafter mentioned, from BANK OF AMERICA N.T. & S.A., LOS ANGELES  
the following documents and the goods and merchandise represented thereby,  
all the property of the said bank and specified in the bill of lading as follows:

DATE	VESSEL	MARKS AND NOS.	MERCHANDISE
TIENTSIN, JUNE 10, 1940	ASAMA MARU	(A-2) NO. 1/20 LOS ANGELES	10 BALES RUGS
DOCUMENTS ATTACHED:	COMMERCIAL INVOICE, CONSULAR INVOICE, INSURANCE CERTIFICATE AND 4/4 BILLS OF LADING		

and in consideration thereof, undersigned hereby agrees to hold said goods in trust for said bank and as its property, with authority to sell the same for its account and immediately deliver the proceeds of said sale to said bank, but without authority to make any other disposition whatsoever of said documents or the goods or merchandise represented thereby, or any part thereof or any of the proceeds thereof, either by way of conditional sale, pledge, mortgage, transfer, or otherwise.

In case of sale, the undersigned further agrees immediately to deliver the proceeds as soon as received to the said bank to apply against the acceptance of BANK OF AMERICA N.T. & S.A.

MATURING AUGUST 14, 1940

for TWO THOUSAND THREE HUNDRED AND 50/100 DOLLARS

Dollars (\$ 2350.00) under the terms of Commercial Letter of Credit No. 1248, dated APRIL 10, 1940, issued for the account of the undersigned and for the payment of any other indebtedness of undersigned to said bank.

Undersigned agrees to keep said goods insured to their full value against fire; the sum insured to be payable in case of loss to the said bank or its nominee, with the understanding that said bank is not to be chargeable with the storage, premium of insurance, or any other expense incurred on said goods.

Undersigned further agrees that no failure or omission on the part of the undersigned fully to carry out any of the provisions of this or any similar receipt or agreement, or of the agreement under which the said bank issued the Letter of Credit under which said documents and the goods and merchandise represented thereby were purchased, shall be deemed a waiver by the said bank of any of its rights or remedies under either of said agreements, unless said waiver shall be in writing endorsed hereon and signed by the said bank.

The said bank may at any time cancel this trust and take possession of the documents and/or the goods and merchandise represented thereby, or the proceeds of such as may have been sold, wherever said goods or proceeds may then be found; and in the event of any suspension or failure or assignment for the benefit of creditors on the part of the undersigned, or of the nonfulfillment of any obligation, or of the nonpayment at maturity of any acceptance made by undersigned under said credit or under any other credit issued by the said bank on account of the undersigned or any indebtedness of the undersigned to the said bank all obligations, acceptances, indebtedness and liabilities whatsoever shall thereupon, with or without notice, mature and become due and payable.

In the event that the value of the documents hereinabove mentioned or of the goods and merchandise represented thereby shall depreciate in value, the undersigned agrees either to pay to said bank in cash the amount of said depreciation or deliver to said bank other documents and/or goods or merchandise represented thereby of the then market value equivalent to said depreciation.

A-2 TRADING COMPANY

BY *[Signature]*

Fig. 7 THE TRUST RECEIPT

discounted. In periods when the demand for them is great and the supply is low, acceptances may sell in the open market at rates below the Reserve banks' buying rate and few, if any, acceptances will be sold to the Reserve banks. In periods of great supply and low demand, a greater amount is offered for sale to the Reserve banks.

Bankers' acceptances offer an excellent medium for investment of bank funds, since they are short-term paper and originate in commercial transactions. Losses incurred by holders of acceptances have been practically nil, because both the drawer of the draft and the acceptor are liable under the terms on which they are issued. Moreover, they offer no renewal problem—the maturity date is never extended—and as has been explained, a ready market is assured. At the present time, however, the yield on bankers' acceptances is so low as to make them unattractive for investment of bank funds when alternative sources of demand are present. The average rate for June 1947, was 0.81 per cent. This rate offers a great contrast with the rate of 5.5 per cent in June 1929 when bankers' acceptances and other open market instruments offered excellent opportunities not only for profitable employment of bank funds but also for a protective diversification of bank loan portfolios.

*The collateral loan market.* It is generally recognized that an active market for securities is essential in an economic system that relies on private capital formation. To achieve the degree of activity that assures investors a certain market for securities, a complex institutional arrangement has evolved, comprising investment banking houses, brokerage firms, and organized stock and bond exchanges. Since commercial banks contribute to the facilities for trading in stocks and bonds by making loans for the purpose of purchasing or carrying securities, the part played by banks in the investment market commands attention in analyses of bank loans.

Loans of commercial banks for purchasing and carrying securities are classified as (1) loans to brokers and dealers based on (a) United States Government securities and (b) other securities, and (2) to others based on (a) United States Government securities and (b) other securities. Some of these loans are made in the customer's market, that is, they grow out of a customer relationship between banks as lenders and borrowers for the purpose of purchasing or carrying securities. Other bank loans for these purposes are made on a strictly impersonal basis in the open market. We are here concerned chiefly with the latter type, and more particularly with loans on securities other than United States Government securities.

Another consideration which delimits the following discussion is the differentiation between brokers and dealers. That part of the trading

in securities which gives rise to brokers' loans, is carried out through stock commission houses, which are brokerage firms. These firms act as agents in the purchase and sale of stocks and bonds. Frequently they carry these securities on margin for their customers. The term "margin trading" refers to transactions wherein the customers of brokerage firms deposit less than the full purchase prices of the securities purchased. The brokerage firms ordinarily borrow from banks the amount of funds needed above that deposited by their customers. Securities held by brokers for customers or for their own account serve as collateral for these loans.

In contrast with loans made to brokerage firms, dealers in securities borrow for the purpose of purchasing and carrying securities for later distribution. Borrowings by dealers to cover unsold securities represent investment banking transactions, while loans to brokers for the purpose of carrying customers' margin accounts represent, as the name implies, brokerage transactions. In the wartime years, 1941-1945, loans to dealers in United States Government securities were great and, as might be expected, declined abruptly after the Victory Loan flotations. Loans to brokers for the purpose of carrying their customers' margin accounts fluctuate in accordance with the degree of activity in the stock market and the margin requirements. It is with bank loans to brokers for the purpose of carrying their customers' margin accounts that we are here chiefly concerned.

*Customers' debit balances with brokerage firms.* Extensions of credit by brokers to their customers appear on the books of brokerage firms as *customers' debit balances*. The amount of funds borrowed by brokers to carry these customers' debit balances is reported as *money borrowed*. Thus brokers act not only as middlemen standing between buyers and sellers of securities, but also as middlemen offering their services to procure funds to enable buyers of securities to purchase them on margin. The bank that lends to brokers may call for additional collateral when that already pledged proves to be inadequate because of a decline in market prices, and it may sell the collateral if market developments warrant such action. Likewise, brokers under their contracts with customers may call for a greater cash deposit in the event of a decline in market values and may sell the collateral when necessary to protect their loans. In fact, brokers are required under the regulations of the New York Stock

Exchange and those of the Board of Governors of the Federal Reserve System to take such action.

The amount reported by brokers as money borrowed by them is invariably less than the amount of the credit extended by brokers to their customers. This is accounted for by the fact that brokers hold substantial credit balances of customers in addition to their own capital funds. Although fluctuations in the volume of brokers' borrowings have until recent years corresponded approximately with the volume of customers' debit balances, changes in brokers' borrowings have at times reflected changes in the other items that have been mentioned and with the requirements for purchasing and carrying securities for their own account. In recent years, customers' free credit balances have been much larger in proportion to customers' debit balances than formerly, thus causing the ratio of money borrowed to customers' debit balances to fall.

*Lenders in the collateral loan market.* In recent years, commercial banks have been almost the only lenders in the collateral loan market. In times past, however, lenders other than banks have exerted considerable influence in this market. In 1929, for example, a period of high money rates and great demand for funds for speculative purposes, the so-called brokers' loans "for the account of others" (lenders other than banks) reached tremendous proportions. On the last day in September 1929, brokers' borrowings on collateral in New York City as reported by members of the New York Stock Exchange reached the record total of \$8,549 million. On October 2, 1929, brokers' loans "for others" was reported by weekly reporting member banks in New York City as \$3,907 million. The most important of these lenders were corporations which deposited part of their cash balances with New York banks, with instructions to offer them at the money desk of the New York Stock Exchange. Later—in 1931—the New York Clearing House Association prohibited its members from handling brokers' loans for the account of others, and two years later the Banking Act of 1933 prohibited all member banks from acting as agent for lenders other than banking institutions in making loans on securities to brokers and dealers in securities.

*Call and time loans on security collateral.* The New York Stock Exchange furnishes facilities to bring the borrowers and lenders together to consummate call and time loans with security collateral.



One of the peculiar features of this market is that the amount of funds supplied to it by banks is determined after the transactions which give rise to the demand for funds are completed. Ordinarily the reverse is true of most loans for industrial and agricultural purposes. Most enterprisers in these fields make arrangements for the needed funds in advance of the transactions into which they enter.

Banks participate in the brokers' loan market in two ways, namely, through middlemen called loan brokers, and by lending funds directly to brokers and dealers in securities. The operations of loan brokers may be described briefly as follows: On the floor of the New York Stock Exchange is the so-called money desk, which is presided over by a loan expert who is under the general supervision of the exchange. He receives memoranda of the amounts which members wish to borrow and the rates which they are willing to pay. The loan brokers who represent New York banks may be willing to advance funds at this rate, and if so, that rate is posted as the market rate. Thus the money desk records the amounts demanded and the amounts offered, and posts the rates agreed upon.

When a loan broker places a loan, he notifies the bank for which he is acting of the amount loaned, the name of the borrower, and the rate agreed upon. The securities which the borrower offers as collateral are placed in an envelope by him, and on the envelope are written his name and a list of the securities it contains. The borrower also signs an agreement and a note giving the lending bank authority to sell the securities in case of default, and a lien on whatever credit balance the borrower may have on deposit with the lending bank.

The advantage to the bank of making its loans through a loan broker is that it may through him choose the borrowers. The loan broker attempts to make large loans to a few of the best borrowers in the expectation that the overhead cost to the bank handling brokers' loans may be reduced. When a bank lends funds at the money desk of the New York Stock Exchange it cannot choose its borrowers in this manner.

Banks make direct advances to stock brokers through what is called the day loan. Since a stock broker cannot forecast exactly the needs which arise for any day, his cashier estimates such needs as accurately as possible and arranges for a day loan which is ordi-

narily sufficient to enable him to purchase securities during the day. These are then used to collateralize an overnight loan. No charge was made on these day loans until 1929 when a rate of 1 per cent per annum was established.

The amount of a broker's bank balance need not, of course, equal the amount of the securities he purchases during a day. In fact, the value of securities handled may be more than a thousand times the average cash balance of the broker who handles them. This is explained, in part, by the fact that brokers buy and sell among themselves the same securities each day as their customers direct, and they need not make settlement for each transaction.

The Stock Clearing Corporation, a subsidiary of the New York Stock Exchange, provides the machinery whereby settlements for each transaction are obviated. It eliminates delivery to intermediate purchasers and provides instead for delivery only to the final purchaser. In other words, it performs for brokers the function which a clearing house association performs for commercial banks. From 1929 to 1935, brokers made cash settlements on only 18 to 32 per cent of the total value of their transactions. In years of great activity in the stock market this percentage, is, of course, lower than in dull years. This fact emphasizes the importance of the function of banks in the settlement process, namely, that of supporting with a comparatively small amount of funds a much larger structure of transactions.

*Call- and time-loan rates.* Call loans and time loans on security collateral are identical with regard to the type of collateral with which they are secured and with regard to borrowers and lenders. They differ only in the provision that call loans are not contracted for a definite period but are callable or payable on any business day at the option of either party to the transaction. The importance of this difference is, as might be expected, reflected in the difference in rates on the two types of loans. There are, however, two call-loan rates, namely, the rate on new loans and the renewal rate.

The volume of new loans on the floor of the stock exchange is usually a small percentage of the total call loans outstanding. If no machinery had been established to take care of renewals automatically, a lender on a call-loan basis would call his loans and make a new one every time the call rate advances, while every borrower

would pay off his call loans and borrow anew every time the call rate falls. To avoid this confusion, a renewal rate is agreed upon daily, which rate applies to all loans held over from the previous day, unless the borrower and lender enter into some special agreement. The new loan rate applies only to those loans made on the current day, and might fluctuate hourly in response to changes in the demand for and the supply of funds. Because of the existence of the renewal rate, the call loans of some banks are not called for years, even for a decade or more in a few instances, while other banks make it a policy to call their call loans frequently. The policy usually followed by each of the New York banks is quite generally known among brokers. They know, too, that this difference in policy cannot always be relied on, especially in periods of financial stress and strain.

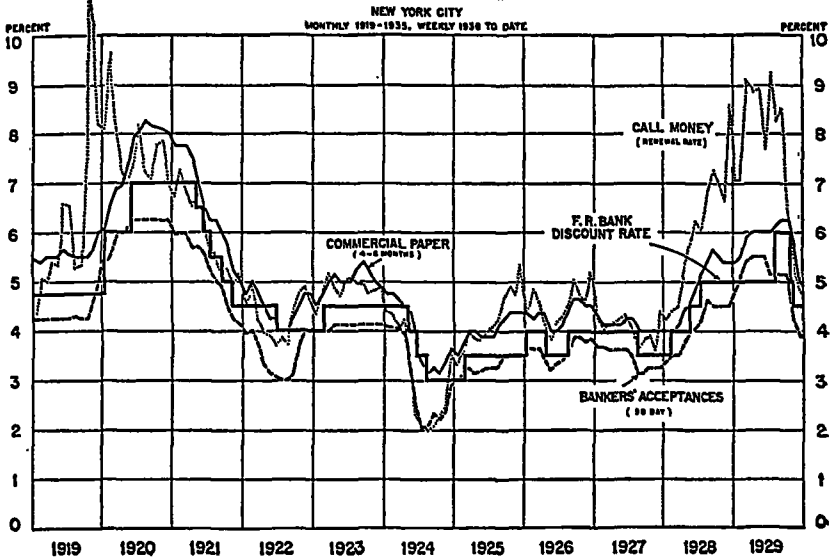
In recent years, the rate on stock exchange time loans for ninety days has been  $\frac{1}{4}$  of 1 per cent above the renewal rate. This condition reflects a willingness on the part of banks to accept a smaller return in consideration of the right to call their funds on demand. It would seem, therefore, that the callable feature has been of more value to the lenders than to the borrowers of these loans.

There have been a number of comparatively short periods, however, when the renewal rate on call loans has exceeded the rate on time loans with security collateral. One such period was the last quarter of 1919 when the call-loan rate was bid up to abnormally high levels. Again in March 1929, the call-loan rate was very high. These were periods when bank funds were absorbed by customers' demand to such an extent that banks could not supply the funds the call market demanded. The high rates, which were, in part, a consequence of the short supply relative to demand, then attracted funds from nonbanking sources.

Chart 7 depicts open market money rates, 1919-1940. This chart has not been extended beyond 1940 because the rates on open market instruments were held at relatively stable low levels throughout the war years. In 1946, however, some firming of these rates appeared for the first time in several years. Stock exchange call loan renewal rates, which had stood at 1.00 per cent for many years, rose to 1.50 per cent early in 1948. Prime commercial paper rose from a yield of 0.75 per cent in 1945 to 1.38 in February 1948. Prime

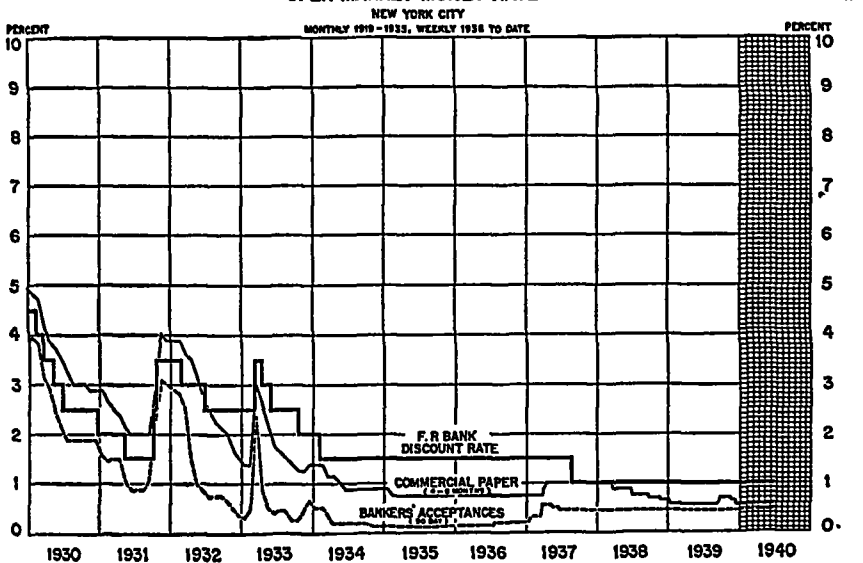
# Chart 7

## OPEN-MARKET MONEY RATES



# Chart 7 Continued

## OPEN-MARKET MONEY RATES



Source: *Chart Book*, Board of Governors of the Federal Reserve System, pp. 18-19.

bankers' acceptances rose from an average yield of 0.44 per cent in 1945 to 0.87 per cent in 1947 and to 1.06 per cent in January 1948.

### STUDY QUESTIONS

1. Account for the decline of real estate loans on farm land compared with other loans to farmers.
2. Why do Commodity Credit Corporation loans on staple farm products constitute virtually a price-guaranty plan?
3. Explain the functions of the national farm loan associations in the Farm Credit Administration.
4. "The Federal Land Bank System gives the farmer indirect access to the market for long-term investment securities." Explain.
5. "The loans of the Land Bank Commissioner were more risky than the loans of the Federal Land banks, yet losses on them have been moderate." Explain.
6. "The loans of the Federal Intermediate Credit banks and of the Production Credit Corporations are loans that commercial banks might make." Do you agree? Explain.
7. "The purpose of the Federal Housing Administration was not to take loan business away from the commercial banks." Do you agree? Explain.
8. Outline the divisions of the money market.
9. Who are the lenders on open market paper?
10. "Small firms cannot borrow in the open market." Explain.
11. Account for the decline of the commercial paper business.
12. Explain how most bankers' acceptances originate.
13. "The Federal Reserve banks serve as an 'overflow' market for bankers' acceptances." Explain.
14. Define: (a) customers' debit balances with brokers, (b) customers' free credit balances with brokers.
15. Explain the processes by which commercial banks may make stock exchange collateral loans.
16. How might the decline in open market money rates in the 1930's and the rise in those rates in 1946-1947 be explained?

# CHAPTER

# 11

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## BANKS BUY SECURITIES

**Introduction.** Until the recent wartime expansion in bank holdings of securities, bank loans were a more important source of bank earnings than investments. By the end of 1943 banks had accumulated such large holdings of securities, mostly government securities, that gross revenues from them, despite the lower rate of return on securities, exceeded in that year and subsequent years the total return on loans. It is nevertheless true that loans of the smaller banks—those with deposits less than \$1 million—continue to yield greater total returns than their investment holdings.

From the economic point of view, as distinguished from the viewpoint of the individual banks, the effect of bank holdings of securities on the volume of credit is more important than their effect on bank earnings. The significance of variations in the supply of bank credit rests on the effects of those variations on the money supply of the nation. For example, the purchase of corporate bonds by banks creates bank deposits, since deposit credits are granted in exchange for those bonds. Likewise, bank purchases of government securities create deposit credits. These deposit credits may, in turn, at the discretion of depositors be exchanged for currency.

The causes of changes in the money supply in the years 1939–1946 are indicated in Table 15 on page 205. It will be observed that bank holdings of securities and nonbank holdings of securities are factors causing changes in the supply of deposits and currency. In order to clarify the effect of these two factors on the money supply, let us assume that all other factors remain unchanged and that the

Treasury's net cash income and outgo are in balance. Under these assumptions, an increase in bank holdings of government securities would necessarily be made at the expense of nonbank holdings of such securities. Bank deposits or currency would then increase, since banks would give deposit credits or currency for the bonds. Conversely, an increase in nonbank holdings of government securities, having taken place at the expense of bank holdings, would result in a decline in the public's holdings of bank deposits or currency. This is true because purchasers would pay for bonds by drawing on their deposit credits or currency holdings. In the case of bank purchases of corporate securities, bank deposits, as has been explained, would increase, while purchases by nonbank investors would result merely in a shift in the ownership of bank deposits without a change in the total.

During the war years, 1941-1945, the increase in bank holdings of government securities was the only significant factor that increased the supply of deposits and currency. In the postwar years, 1945-1947, the purchase of government securities from nonbank holders, together with an increase in bank loans, accounted for a continuation, at a slackened pace, of the wartime rising trend in the nation's money supply.

In decades prior to the 1930's, the phenomenon of bank credit expansion was associated largely with bank loan expansion. Recently, students of monetary and banking phenomena have paid greater attention to the relationship of trends in bank holdings of securities and the supply of deposits and currency.

### TRADITIONAL VIEW OF BANK INVESTMENTS

It has been said in an earlier chapter that the traditional view of commercial banking, evolved in Europe in the seventeenth and eighteenth centuries, is that banking should consist in the pooling of short-term funds and their diversion into short-term loans for commercial and productive purposes. Accordingly, a commercial bank's chief assets were held most properly to consist of commercial loans because it would then possess the most liquid type of assets to support its demand liabilities. The role of investment holdings in this concept of commercial banking is a comparatively minor one.

The argument in support of the traditional theory of commercial banking, which is at the same time an argument against heavy investments of the funds of commercial banks in long-term securities, is based on the assumption that no central bank exists with power to convert the bond holdings of the member banks into currency—that long-term securities are not self-liquidating as are short-term commercial loans. The argument begins with the fact that demand deposits of banks are subject to immediate withdrawal in cash. It continues with the observation that a commercial bank should make many small short-term commercial loans of comparatively small amounts, some of which would mature almost every business day, and that these continuous maturities would then be expected ordinarily to offset the constant daily withdrawals of depositors. If withdrawals should happen to be quite large over a certain period of time, the bank could cope with the situation by reducing the dollar volume of renewals of the short-term loans. If withdrawals of deposits should be inordinately high, the bank in question could sell or pledge some of its "self-liquidating" paper to furnish a larger amount of cash income. It could, furthermore, under a central banking system rediscount this paper with the central bank as a means of obtaining cash. On the other hand, a bank which has invested heavily in bonds must sell these bonds on the market to raise cash in times of need.

While this method of escape may be open to an individual bank, it is likely to be a costly means of raising cash if all the banks resort to it at about the same time. Furthermore, an individual bank may find that some of its bonds furnish no means whatsoever of raising cash to meet the cash demands of depositors. The bonds referred to are those with only a local market; the only buyers might be depositors of the bank which seeks to sell them. Thus the selling bank merely cancels bond-holdings and deposits and raises thereby no cash to meet the demands of other depositors.

Should practically all banks of the banking system attempt to gain cash by selling securities on the market in the same period of time, it obviously is impossible for all of them to succeed, if in that period of time the supply of cash in the economy has not been increased. The banks that are successful in selling securities do so at the expense of the other banks from which the cash is withdrawn. If in



the same period of time a considerable amount of cash hoarding should be taking place, the banks seeking to gain cash would be competing for a part of a declining money supply. This state of affairs has been experienced in several periods in American banking history, notably in 1930-1933. The lesson to be learned from these experiences is that the central bank must be permitted to purchase the bondholdings of banks with cash in the event of a widespread desire on the part of bank depositors to convert their deposits into cash.

Past attempts to support the traditional concept. In the period of American history prior to 1913, several states passed legislation which forbade purchase of bonds by commercial banks. In some respects, the National Bank Act of 1863 encouraged bank investments in bonds, and in other respects sought to support the traditional concept of commercial banking. It required newly organized national banks to invest a part of their capital funds in government bonds and required that government bonds be used as security for national bank notes, but it did not explicitly grant authority to national banks to buy bonds for other purposes. This act permitted the discount and negotiation of "promissory notes, drafts, bills of change, and other evidences of debt." It is not known whether its authors intended to forbid banks to hold bonds. An interpretation of the words "other evidences of debt" was issued by the Comptroller of the Currency, whereby banks were permitted to invest in bonds without legislative authorization. Both state and federal laws specifically forbid the purchase of stocks by state and national banks, except stock of their safety-deposit subsidiaries and stock in the Federal Reserve bank of the district in which a bank may be located.

The National Bank Act of 1863 sought to limit the activities of national banks to commercial banking operations. For example, it forbade their granting real estate loans (but was later revised to permit them) or establishing trust departments (also permitted later). Hence, the framers of this act probably intended to encourage national banks to invest in government bonds and to discourage their entrance into other noncommercial fields.

Specific authorization to purchase bonds. The first specific legislative authorization given to national banks to buy bonds for investment was the act passed February 25, 1927, known as the McFadden

Act, by which national banks were permitted to buy "bonds, notes, or debentures commonly known as investment securities, under such further definition of the term 'investment' securities as may by regulation be prescribed by the Comptroller of the Currency." The Comptroller issued, under this authority, a very broad definition of investment securities in which he stressed their marketability. "This term marketable," he said, "means that the security in question has such a market as to render sales at intrinsic values readily possible." At the time this definition was first used, no method or suggestion of a method of determining intrinsic values was attempted.

Recent regulations on security holdings of banks. The Banking Act of 1933 contains some rather complex restrictions concerning the security holdings of national banks and state bank members of the Federal Reserve System. This act can be considered to be companion legislation to other legislation which established regulation over investment banking activities and the operations of stock and bond exchanges.

Motivated by the belief that excessive participation of banks in investment banking activities and excessive bank holdings of securities had contributed to the inflationary boom preceding the stock market crash of 1929, Congress in the Banking Act of 1933 prohibited banks from underwriting new issues of securities. (A number of banks had in the 1920's established "investment affiliates" for the purpose of underwriting new corporate security issues. Sometimes banks took into their bond portfolios offerings which their investment affiliates had not sold to investors.) This provision remains in effect. Provisions of the Banking Act of 1933 concerning the security holdings of member banks were modified and simplified in the Banking Act of 1935 by the adoption of the following single rule: A national bank may purchase for its own account investment securities under such limitations as the Comptroller of the Currency may by regulation prescribe, but in no event may the total of the investment securities of any one maker or obligor held by the bank exceed at any time 10 per cent of its capital stock and surplus. Since this act provided that the same regulations should apply to state member banks, the regulations of the Comptroller of the Currency apply to all member banks of the Federal Reserve System.

This limitation, known as the "ten per cent rule," does not extend

to the securities of the United States Government, to issues guaranteed as to principal and interest by the U. S. Government, and to obligations of state and municipal governments.

In a set of regulations issued on February 15, 1936, the Comptroller of the Currency sought to define the term "investment securities." He sought by this definition to prohibit bank purchases of speculative securities. In cases where doubt exists as to the eligibility of a security for purchase by banks, such purchases, according to these regulations, must be supported by not less than two rating manuals (such as Moody's Investors Service, Standard and Poor's Corporation, and other investors' services which classify securities according to their investment qualities).

Criticisms of the use of rating manuals in determining the eligibility of securities for purchase by banks led to the deletion of specific references to them in the revised regulations of the Comptroller of the Currency. The chief criticism of the use of these rating manuals was that banks would not be permitted to buy securities until they had achieved a high rating, at which time they would likely be selling at a high price. One banker expressed his feelings on the matter as follows: "By the use of rating standards one would always buy bonds at the wrong time. Bonds would be ineligible for purchase when they were low in price, and eligible for purchase only when they were high in price."<sup>1</sup>

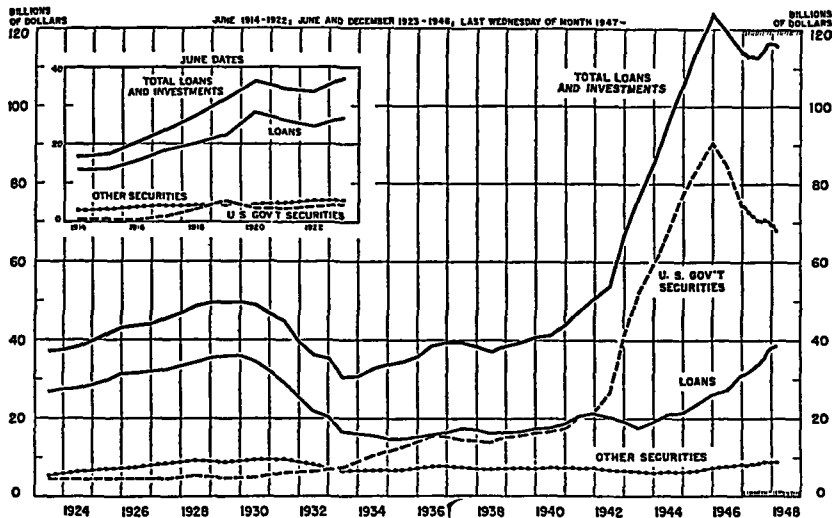
In the revised regulations, issued in June 1938, securities held by member banks are divided for bank examination purposes into four groups: *Group I* securities are marketable securities in which the investment characteristics are not distinctly or predominantly speculative. If they are purchased at prices above par, the premiums must be amortized over the life of the securities. *Group II* securities are those in which the investment characteristics are distinctly or predominantly speculative. Each of these is valued for examination purposes at the average of market prices over an eighteen-month period. An advantage of this procedure is that examiners' tend to value these securities at prices above the market when prices are falling and below the market when prices are rising. The banks will, as a consequence, be encouraged to hold them when the market is

<sup>1</sup> Wilkinson, J. Harvie. *Investment Policies for Commercial Banks*, New York: Harper & Brothers, 1938, p. 111.

under pressure and to sell them when there is an active demand, thus contributing to stability rather than instability in the markets. *Group III*, securities in default, and *Group IV*, stocks, are appraised for examination purposes at current market prices.

Chart 8

## LOANS AND INVESTMENTS OF ALL COMMERCIAL BANKS



Source: *Chart Book*, Board of Governors of the Federal Reserve System.

Recent trends in security holdings of banks. Chart 8 indicates the dominant position of bank loans as an instrument of bank credit expansion in the 1920's and the rise in the relative position of securities, especially government securities, during the next decade. The inset chart showing loans and investments of banks in the period 1914-1922 reveals that government securities by no means gained a dominant position among the earning assets of banks during World War I, as was the case during World War II when the volume of bank holdings of government securities far outstripped the volume of bank loans. The decline in bank holdings of government securities in 1946 shown on the chart reflects the debt retirement program of the U. S. Treasury in that year when most of the funds raised in the Victory Loan Drive, which were not needed to meet government expenses, were used to retire some of the obligations previously incurred.

## COMPOSITION OF SECURITY HOLDINGS OF BANKS

Table 23 shows the types of U. S. Government securities and other securities held by all insured commercial banks, 1944-1946. Chart 9 indicates the holdings of U. S. Government securities by member banks, 1928-1946.

TABLE 23

## OBLIGATIONS OF THE UNITED STATES GOVERNMENT AND OTHER SECURITY HOLDINGS OF ALL INSURED COMMERCIAL BANKS ON SELECTED CALL DATES

(Amounts in thousands of dollars)

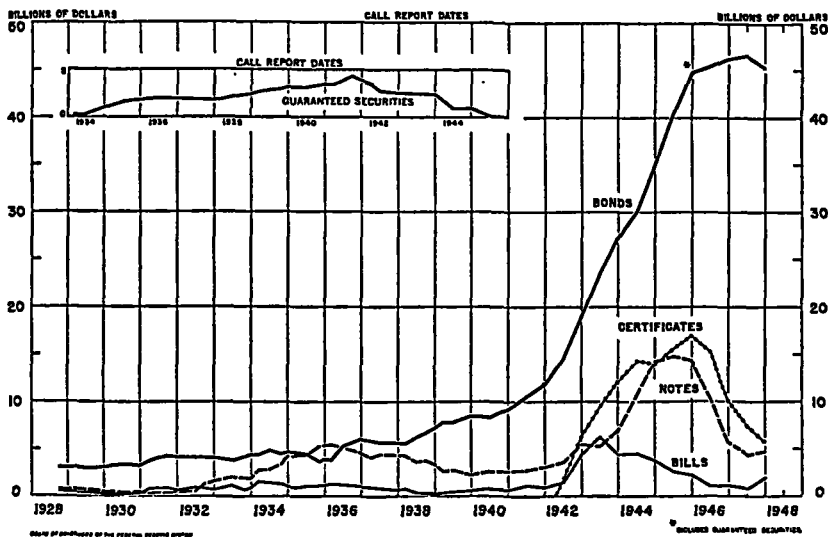
	Dec. 31, 1946	June 29, 1946	Dec. 31, 1945	Dec. 30, 1944
<b>Obligations of the United States Government—total</b>	<b>73,574,908</b>	<b>82,997,854</b>	<b>88,933,380</b>	<b>75,896,226</b>
<b>Direct:</b>				
Treasury bills	1,271,662	1,220,038	2,455,731	3,972,299
Treasury certificates of indebtedness	12,293,195	17,641,607	19,074,630	15,302,996
Treasury notes	6,781,379	12,006,539	16,047,429	15,780,732
United States savings bonds	1,180,326	1,194,592	1,194,764	763,842
Other bonds maturing in 5 years or less	12,727,955	9,933,205	9,029,883	5,917,694
Other bonds maturing in 5 to 10 years	29,700,350	32,278,820	32,230,258	25,467,314
Bonds maturing in 10 to 20 years	6,597,224	5,725,858	6,092,145	5,796,636
Bonds maturing after 20 years	3,007,790	2,973,453	2,786,871	1,917,000
Guaranteed obligations	15,027	23,742	21,669	977,613
<b>Other securities—total</b>	<b>7,893,469</b>	<b>7,643,985</b>	<b>7,133,315</b>	<b>6,156,841</b>
Obligations of States and political subdivisions	4,300,705	3,975,354	3,874,729	3,423,732
Other bonds, notes, and debentures <sup>1</sup>	3,295,002	3,354,207	2,938,313	2,385,706
Corporate stocks:				
Federal Reserve banks	186,796	182,798	176,895	162,541
Other corporate stocks	110,966	131,626	143,378	184,862
<b>Total securities</b>	<b>81,468,377</b>	<b>90,641,839</b>	<b>96,066,695</b>	<b>82,053,067</b>

Source: *Annual Report of the Federal Deposit Insurance Corporation*, 1946, p. 124.

Descriptions of types of U. S. Government securities. The United States Government debt may be classified by kinds of securities as follows: (1) marketable public issues, including Treasury bills, certificates of indebtedness, Treasury notes, and Treasury bonds; (2) nonmarketable public issues, including U. S. savings bonds, and Treasury tax and savings notes; (3) special issues; (4) noninterest-bearing debt; and (5) fully guaranteed interest-bearing securities.

Chart 9

## MEMBER BANK HOLDINGS OF U. S. GOVERNMENT SECURITIES



**Marketable public issues.** Treasury bills are typically 91-day securities and are sold on a discount basis, that is, they are payable at par on maturity. The Treasury, by public notice, invites tenders for a stated amount, or approximately that amount, under competitive and fixed-price bidding as provided in the tender. They are issued in bearer form and usually in denominations ranging from \$1,000 to \$1,000,000. For example, on June 30, 1944, the Secretary of the Treasury invited tenders for \$1,200,000,000, or thereabouts, of 91-day Treasury bills. Tenders of \$100,000 or less from any one bidder at the fixed price of 99.905 for this particular issue were accepted in full. On July 4, 1944, a press release from the Treasury Department stated that the total applied for was \$2,215,011,000, that \$48,741,000

entered on a fixed price at 99.905 were accepted in full, and that 49 per cent of the amount bid for at the low price was accepted, making the total amount accepted \$1,216,173,000.

*Certificates of indebtedness* are one-year obligations of the Treasury, unless for the purpose of preventing two issues from maturing on the same date a slightly longer-term issue is floated. An unusual issue of certificates was that issued to the Federal Reserve banks to cover overdrafts on Treasury balances in March 1945, which certificates were retired as rapidly as funds from tax payments became available. The coupon rate on certificates stood at  $\frac{3}{8}$  per cent during the war years and has since risen to 1.10 per cent.

*Treasury notes* are obligations of the Treasury with maturities from one to five years, mostly three to five years. For example, an issue dated July 12, 1943, which bears interest at the rate of  $1\frac{1}{2}$  per cent, payable semiannually, matures on September 15, 1947.

*Treasury bonds* are the long-term obligations of the United States Government. The marketable issues now outstanding are redeemable on dates between October 15, 1947 and December 15, 1967, and are payable on dates from December 15, 1947 to December 15, 1972. The coupon rate on these bonds range from  $1\frac{3}{4}$  per cent to 2½ per cent, except for three comparatively small issues that bear a higher rate. For the great bulk of the issues outstanding the coupon rate is 2,  $2\frac{1}{4}$  or  $2\frac{1}{2}$  per cent.

*Nonmarketable public issues.* In 1935, the Treasury began the program for the issuance of savings bonds in small denominations with the flotation of *Series A* bonds. This series matured in 1945, and *Series B*, which succeeded the *Series A*, matured in 1946. *Series C* and *D* mature in the years from 1947 to 1951. In May 1941, the familiar *Series E* bonds were first issued. These discount bonds are redeemable after 60 days from issue date, on demand at the option of the owner, and are payable 10 years from the issue date. If held until maturity, the approximate yield on them is 2.9 per cent. If redeemed before maturity, they are redeemed at figures stated in the bond contract. The redemption values start with a zero yield and rise to higher yields as the redemption date approaches the maturity date. The purposes behind this redemption plan are (1) to encourage owners to hold them until maturity, (2) to provide the Treasury with short-term funds at low rates to the extent that these bonds

are redeemed in a few months or years after their issuance, and (3) to provide the owners with guaranteed redemption values, rather than to subject them to market risks.

*Series F* savings bonds are redeemable after 6 months from issue date, on demand at the option of the owner on 1 month's notice, and are payable at par 12 years from the issue date. When held to maturity they yield 2.53 per cent interest. They are discount bonds and are sold at \$74.00 for each \$100 bond.

*Series G* savings bonds are sold at par and are redeemable under the same provisions that apply to the *Series F* bonds. The redemption values are, however, less than par, according to a redemption table in the bond contract, when redeemed before the maturity date, which is 12 years from the issue date. They are payable at par to the owner's estate in the event of his death. Interest is paid on these bonds semiannually at a 2½ per cent rate.

*Special issues* of United States Government securities include the adjusted service bonds, a series of Treasury notes held in the Federal old age and survivors insurance trust fund, in the Railroad retirement account, in the Civil Service retirement fund, in the certificates of indebtedness held in various trust funds.

*The noninterest-bearing debt* includes the outstanding legal tender notes; United States saving stamps, thrift stamps, etc., and excess profits tax refund bonds.

The Treasury also lists a matured debt on which interest has ceased. On June 30, 1945, this long list of unredeemed securities had maturity values totaling about \$280 million.

## INVESTMENT RISKS

Banks assume two kinds of risks in holding securities. The first of these is called *credit risk*, which refers to the possibility of losses due to the failure of obligors to pay principal and interest according to the contract. The other is *money risk* by which is meant the risk of loss attributable to a rise in interest rates to a level above that which prevailed at the time securities were purchased. Losses due to a rise in the interest rate are incurred irrespective of the strength of the credit status of issuers of securities and their ability to pay principal and interest on their obligations. In periods of declining interest rates



such losses on securities as may occur must be attributed not to adverse results from the holders having assumed money risks, but rather to a weakening of the credit status of the debtors on securities. It is a function of management of the investment portfolio of each bank to protect the bank against losses that might be attributed to either of these two kinds of risks.

## INVESTMENT PORTFOLIO MANAGEMENT

It is appropriate and logical to begin a discussion of the management of the investment portfolio of a bank with a consideration of the bank's reserve position, because banks ordinarily do not sell securities to gain cash when their reserve position is strong. Traditionally, reserves of banks have been classified as legal reserves, primary reserves, and secondary reserves. The *legal reserve* is the amount required to be kept on deposit with a reserve depository. The *primary reserve* is cash in vault and other assets that are equivalent to cash, such as cash items in process of collection and free balances on deposit with the reserve depository and other banks. The *secondary reserves* of a bank comprise those short-term assets of unquestioned marketability that are convertible into cash either before maturity or at maturity with little or no loss. Most writers in the field of money and banking do not regard loans to customers as a part of a bank's secondary reserves. Open market instruments such as commercial paper and bankers' acceptances, which have been described in the previous chapter, qualify by every standard for classification as secondary reserves. Government securities must also be listed as secondary reserves, although opinions differ concerning the dividing point, as far as the length of maturities is concerned, between secondary reserves and investment reserves. Rodkey prefers to exclude from the secondary reserve all earning assets which are not self-liquidating within a twelve-month period. He places in a special class, called the *investment reserve*, all United States Government securities and other readily marketable issues of Aaa quality having maturities extending from one year to six years.<sup>2</sup> The function of the investment reserve of a bank is to provide a third line

<sup>2</sup> Rodkey, Robert G. *Sound Policies for Bank Management*, copyright 1944, The Ronald Press Company, pp. 30-31.

of defense against unforeseen adverse developments, according to Professor Rodkey, who presents his argument, in part, as follows:

Banks otherwise soundly managed and which had in 1929 adequate secondary and investment reserves could face with equanimity the developments of the succeeding three or four years. Their earning power was likely to become impaired, but ability to meet all their obligations would never have been questioned by those familiar with the real situation. Furthermore, they would not have found it necessary to sell bonds from their permanent bond portfolio in the bad market prevailing during those years. If the spaced maturities of their investment reserve bonds failed to mature rapidly enough to meet the loss of deposits and to meet the demand for all good loans, then additional items from the investment reserve maturing two or three years hence could have been disposed of. Proximity to maturity would make it impossible for such issues to deviate far from par. These observations are based on two assumptions: (1) that the investment reserve contains money bonds exclusively; and (2) that the reserve as a whole is adequate in size. Where such assumptions are warranted the secondary and investment reserves combined would provide the means for meeting a sudden and drastic loss of deposits or the long continued major loss of deposits incident to the decline from great prosperity to the depths of a great depression.<sup>3</sup>

Although both the secondary reserves of a bank and its investment reserves provide it with earning assets, it is upon the permanent bond portfolio that a bank relies to give it an uninterrupted stream of income. This observation assumes that the secondary reserve and investment reserve provide an adequate amount of assets that can be converted into cash, making it unnecessary to liquidate any part of the permanent bond portfolio in the open market. It also assumes that no significant amount of bonds in the permanent bond portfolio will be in default at maturity dates.

Considerations involved in the management of the portfolio of U. S. Government securities. The managers of the government securities portfolios of commercial banks are faced with considerations that are not involved in the management of bank holdings of corporate securities. One of these considerations is that for some issues of government securities commercial banks have been singled out as being ineligible to hold them, while for all corporate securities banks are free, along with all other prospective buyers, to bid for them. Another consideration is that the judgments concerning the credit status of the

<sup>3</sup> *Ibid.*, pp. 32-33.

issuer of government securities, namely, the Government of the United States, do not differ widely among prospective purchasers. Instead of different judgments concerning the credit status of the issuer of these securities, judgments vary concerning such matters as the federal budget, the management of the federal debt, the terms offered in refunding operations, etc. A third major consideration lies in the realm of central bank policies affecting government securities, which policies are subject to change according to the views of the Federal Reserve authorities on over-all monetary and credit conditions.

In general, the market for government securities is sensitive to changes in monetary management made by Treasury and Federal Reserve authorities, as well as to changes in the interest rates attributable to the supply of and demand for loanable funds in the money markets.

*Eligibility of government issues for bank holdings.* As the recent war progressed from earlier to later stages and the money supply in the hands of the public grew to great proportions, the Treasury put forth greater efforts to finance the war by employing methods that would cause the least possible degree of inflation. One of the steps taken was to bring out security issues that were ineligible for ownership by commercial banks before a specified future date. These restricted issues were in all cases long-term bonds, the effect of their issuance being to limit commercial bank subscriptions to the short-term issues. For example, a bond issue of \$5,284 million, with a maturity date in 1962 and callable in 1959, was made ineligible for purchase by commercial banks before June 15, 1952. The action posed a current problem and also a future problem for bank management. Should they bid for outstanding unrestricted issues held by nonbank investors? If they should do so, the prices of these bonds would rise and yields would recede.

That banks have bid for the longer-term government securities held by nonbank investors is reflected in market quotations, the prices of unrestricted issues being considerably higher than those for the restricted issues. Many banks have sold short-term bills or certificates to the Federal Reserve banks in order to gain the additional reserve balances required against the deposits created by the purchases of securities from nonbank investors.

In the summer of 1947 many observers of financial problems and trends believed that in the near future the Treasury might refund maturing certificates and notes with issues at higher rates. Acting in accordance with this view, many banks withheld purchases of bonds with the result that bond prices were not as strong as they had been. When the announcement concerning the September maturities was made on August 18, revealing the Treasury's determination to hold interest rates on short-term issues to levels only slightly higher than before, many banks actively bid for the unrestricted issues which caused the market prices on them to rise slightly. Later—no more than a month later—market prices of long-term government securities began again to decline, which decline continued until the Federal Reserve banks reversed their previous policy (buying the short-term and selling long-term government securities) and supported the market for the long term issues by buying them in great volume at a much lower rate than the previous market price. In January 1948, the average market price of the taxable issues due or callable in 15 years and over was \$3.25 less than the average price of the same issues in September. Thus it was clearly demonstrated that Treasury policies with respect to the management of the federal debt are an important consideration in the management of a bank's portfolio of government securities. Right guesses concerning the Treasury's policies can be profitable, while wrong guesses result in less than the maximum return on a bank's portfolio of government securities.

The future problem posed by the Treasury's policy of issuing restricted securities can be illustrated by the situation that bank management will face in 1952 when \$13.7 billion of restricted issues will become available for commercial bank ownership and approximately \$17 billion of other issues become callable. The managers of government securities portfolios will then be faced with a choice between the refunding issues of the Treasury and the purchasable bonds held by nonbank investors. The terms of the refunding issues and the market's reaction to the release from restrictions on ownership will determine whether a bank has gained or has lost on its previous purchases of unrestricted issues.

Treasury policies that affect bank investments. It has been suggested in preceding paragraphs that efficient management of the

portfolio of government securities of the individual bank requires that the banker be alert to the Treasury's policies concerning the management of the federal debt and to the policies of the Federal Reserve System that pertain to general monetary and credit conditions.

Both the Treasury and Federal Reserve authorities have, in the immediate postwar period, 1945-1947, shown deep concern with the problems arising from an overly ample money supply, a vast public debt, extensive holdings of Government securities by the commercial banking system, and the existing structure of interest rates.<sup>4</sup> That these problems are closely interrelated is clearly demonstrated by the fact that additions to the holdings of government securities of commercial banks increase the money supply and contribute to a further decline in long-term rates of interest. The effect of this factor (commercial bank holdings of government securities) on the level of interest rates needs further elaboration.

The Treasury in its program of war financing was anxious that the war be financed at a low interest cost. This effort was successful, since the rate of interest on the entire federal debt in 1945 was slightly less than 2 per cent. In accomplishing this objective, a pattern of interest rates on government securities was established. Following this pattern, the rates on the different issues ranged from  $\frac{3}{8}$  per cent on Treasury bills to  $2\frac{1}{2}$  per cent on long-term government bonds. The short-term issues were sold mostly to commercial banks, which were willing buyers of these issues because the Federal Reserve banks had announced their willingness to buy them or to make advances on pledges of them at par values. Hence the Federal Reserve banks rendered indispensable aid to the Treasury in maintaining the Treasury's pattern of low interest rates on government securities.

The effect of the maintenance of the Treasury's pattern of low rates on government securities was to accentuate inflationary tendencies in the economy. This effect was produced by the temptation it put in the way of banks to sell their short-term securities (Treasury bills and Certificates of Indebtedness) to the Federal Reserve banks in order to gain the additional reserves required against de-

<sup>4</sup> *Annual Report of the Board of Governors of the Federal Reserve System, 1946, p. 4.*

posits that would be created in the process of acquiring the higher-yield unrestricted issues held by nonbank investors. Many banks adopted this practice in the immediate postwar period and in doing so caused the prices of these issues to rise, that is, it caused the yields on these issues to fall.

The easy accessibility to additional reserve balances doubtless was also a factor contributing to an increase in the postwar bank credit expansion through loan expansion and also an increase in bank credit expansion through bank purchases of securities other than government securities, causing the yields of these other securities to fall. Thus the sale of the short-term government securities to the Reserve banks and the concurrent purchases of longer-term securities has resulted in "easy money" conditions in an economy characterized by inflationary tendencies attributable to nonmonetary factors, such as shortages of durable consumers goods.

It is understandable, therefore, that the Treasury should have wanted to refund a part of the maturing issues of government securities with issues that might be an attractive vehicle for the investment of individual savings—issues that do not provide a vehicle for bank credit expansion. The individual banker in his own self-interest must adjust the management of his bank's portfolio of government securities to the refunding of the federal debt in such manner as to serve the best interests of the economy as a whole, whatever may be the exact implementation of policies designed to accomplish that purpose.

Federal Reserve policies that affect bank investments. Since banks held, at the close of 1945, over \$101 billion of government securities, a comparatively slight decline in the value of these assets would have wiped out the entire owners' equity in banks. Obviously, the banks were interested in retaining those assets and in accepting the benefits of policies designed to protect their value. In these considerations, the individual banker finds the significance of Federal Reserve policy, for upon the actions of the Reserve banks largely depends the degree of stability in the value of government securities. As has previously been observed, the willingness and ability of the Reserve banks to support the market for government securities at prices above par, or to make advances on pledged securities, gave the banks assurance against great losses on their holdings of those

securities and stimulated bank purchases of large quantities of them from the Treasury and from nonbank investors.

This policy of the Federal Reserve System, however necessary it might have been to help finance the war, has placed the Reserve banks in a dilemma in dealing with the postwar inflation. Traditional Federal Reserve policy would have required the Reserve banks to sell securities in the open market in order to draw funds from the economy in a period of boom, which action has been prohibited in recent years by the necessity for maintaining orderly conditions in the market for government securities. By "orderly conditions" is meant conditions favorable to the refunding of maturing government securities at low rates of interest. The great significance of these refunding operations is revealed by the fact that over \$40 billion of bank holdings mature or are callable within five years (1947-1951).

The dilemma of the Federal Reserve System also extended to the market for government securities held by nonbank investors. Since banks could readily sell their short-term, low-yield holdings to the Federal Reserve banks, they could afford to bid up the market prices for the higher-yield, longer-term issues held by nonbank investors. This they did, which has caused the Federal Reserve authorities much concern, because bank purchases of government securities created new money in a period of great inflation. Thus the immediate self-interest of banks and the traditional central bank policies came into sharp conflict in 1945-1947.

The Federal Reserve System and the Treasury jointly sought an escape from this dilemma in three ways. The first of these was the retirement of a part of the bank-held debt from a surplus of Treasury receipts over expenditures. The second was the policy of withdrawing Federal Reserve support from the market for the short-term government issues, called the "unpegging" of the short-term rates, and the lowering of support prices for government bonds. The result of these actions was a rather sharp rise in the short-term rate, making it less desirable for banks to sell their holdings of these issues to the Reserve banks. When, at the same time, the prices of government bonds weakened, banks were no longer anxious to sell their short-term issues to the Reserve banks and to buy bonds from nonbank investors. The third method of meeting the problem consisted of

TABLE 24

**OWNERSHIP OF UNITED STATES GOVERNMENT SECURITIES, DIRECT AND FULLY GUARANTEED**  
 [Estimates of the Treasury Department. Par value, in millions of dollars]

End of month	Total interest-bearing securities	Held by banks			Held by nonbank investors							
		Total	Com- mercial banks <sup>1</sup>	Federal Reserve Banks	Total	Indi- viduals	Insur- ance com- panies	Mutual savings banks	Other corpo- rations and associa- tions	State and local govern- ments	U. S. Govern- ment agencies and trust funds	
											Special issues	Public issues
1940—June	47,874	18,566	16,100	2,466	29,308	9,700	6,500	3,100	2,500	400	4,775	2,305
1941—June	54,747	21,884	19,700	2,184	32,863	10,900	7,100	3,400	2,400	600	6,120	2,375
December	63,768	23,654	21,400	2,254	40,114	13,600	8,200	3,700	4,400	700	6,982	2,558
1942—June	76,517	28,645	26,000	2,645	47,872	17,900	9,200	3,900	5,400	900	7,885	2,737
December	111,591	47,289	41,100	6,189	64,302	23,700	11,300	4,500	11,600	1,000	9,032	3,218
1943—June	139,472	59,402	52,200	7,202	80,070	30,300	13,100	5,300	15,500	1,500	10,871	3,451
December	168,732	71,443	59,900	11,543	97,289	37,100	15,100	6,100	20,000	2,100	12,703	4,242
1944—June	201,059	83,301	68,400	14,901	117,758	45,100	17,300	7,300	25,800	3,200	14,287	4,810
December	230,361	96,546	77,700	18,846	133,815	52,200	19,600	8,300	27,600	4,300	16,326	5,348
1945—June	256,766	105,992	84,200	21,792	150,774	58,500	22,700	9,600	29,800	5,300	18,812	6,128
December	276,246	115,062	90,800	24,262	161,184	63,500	24,400	10,700	29,100	6,500	20,000	7,048
1946—June	268,578	108,193	84,400	23,783	160,395	62,900	25,300	11,500	25,200	6,500	22,322	6,798
December	257,980	97,850	74,500	23,350	160,130	63,600	25,300	11,800	22,100	6,300	24,585	6,338
1947—June	255,197	91,872	70,000	21,872	163,325	66,100	25,000	12,100	20,100	7,100	27,366	5,445
December	254,281	91,159	68,600	22,559	163,122	65,300	24,300	12,000	19,900	7,300	28,955	5,397
1948—January	254,030	90,825	68,900	21,925	163,205	65,400	24,100	12,000	19,900	7,200	29,148	5,452

Source: Federal Reserve Bulletin, April 1948, p. 432.



strong appeals to the public to purchase savings bonds of the Series E type.

These counterinflationary actions, without which the force of postwar inflation might have been more serious, did not, however, stem the rising tide of bank loans, and for this reason the Board of Governors asked for additional powers of control over reserve requirements. New powers of control over bank credit, it asserted, are needed if the Federal Reserve System is to be able to perform the function of adjusting the supply of money to the needs of the economy.<sup>5</sup>

### INVESTMENTS OF SAVINGS BANKS

Numerous institutions exist for the purpose of collecting and investing the savings of individuals, such as savings banks, savings departments of commercial banks, insurance companies, credit unions, and savings and loan associations. Although each of these is worthy of the attention of the student of money and banking, limitations of space allow a description of the operations of only one of them, and of this one only a brief treatment is attempted. Savings banks are selected for treatment because (1) they more closely resemble commercial banks than do the other institutions mentioned, (2) the commercial banks through their acceptance of time deposits perform much the same functions as the savings banks, and (3) savings banks have a tie-up with the commercial banking system in that they may belong to the Federal Reserve System and the Federal Deposit Insurance Corporation. Since the principal function of savings banks is to invest the savings of depositors, we have chosen to describe their operations in this chapter on bank investments rather than devote a separate chapter to them.

**Differences between savings banks and commercial banks.** Savings banks differ from commercial banks in two principal respects: (1) their organization, especially that of the mutual savings banks, is different, and (2) they specialize in accepting savings deposits, and investing the deposited money, exclusively that of small depositors, while commercial banks hold more demand deposits than savings deposits.

<sup>5</sup> See annual reports of the Board of Governors of 1945 and 1946.

There are two types of savings banks, namely, the mutual type and the stock type. Only the mutual type will be described, since the stock savings banks are so similar to commercial banks that differences between them are quite unimportant, although the stock savings banks have attracted time deposits only while commercial banks attract both time and demand deposits.

Mutual savings banks exist in 17 states. They have no stockholders, the depositors being the owners. Hence, they have no capital stock outstanding; their capital accounts consist exclusively of surplus. Earnings, at the discretion of the board of trustees, are retained in the surplus account or paid out as dividends to depositors.

In Massachusetts and New York, savings banks are permitted to sell life insurance policies, this development in the former state having been credited largely to the efforts of Louis Brandeis. In New York, a policyholder is limited to a policy for \$1,000 from any one bank and may not buy more than \$3,000 from all savings banks. In Massachusetts, the only limitation is that no one may buy more than \$1,000 of insurance from any one bank.<sup>6</sup> The cost of this insurance is low, owing to the absence of many selling costs, such as agents' fees, and to the utilization of the same personnel and equipment as is used for the banking business.

The deposits of savings banks differ from those of commercial banks in that business firms do not ordinarily keep balances with the former type of banking organization. Savings banks specialize in handling regular weekly or monthly savings of individuals. In most states, limits are placed on the amount that a savings bank may accept from a depositor. In New York, a person may not keep more than \$7,500 on deposit at each savings bank.

Although savings banks are permitted to join the Federal Reserve System, few have done so. Instead, they have established in several states a sort of central bank of their own. In New York, two central institutions were established: the Savings Banks Trust Company and the Institutional Securities Corporation. The former, to which the members contributed the capital, was designed to make advances on the security of bond investments to member banks in financial

<sup>6</sup> It has been proposed in both New York and Massachusetts that the present limitation on the amount of insurance that may be issued to any one policy holder be raised.

difficulty. The Institutional Securities Corporation serves the member banks in the mortgage field in a manner similar to the way in which the Savings Bank Trust Company serves them in the investment field. The Institutional Securities Corporation may purchase mortgages from member banks in order to give them greater liquidity. It may also sell debentures to members and invest the proceeds in mortgages that no individual bank might be able or be permitted to handle. These two institutions have made it unnecessary for an individual savings bank to dump assets on the open market in times when it encounters inordinately large withdrawals of deposits.

In 1943, the savings banks of New York discontinued their own plan of deposit insurance—The Mutual Savings Bank Fund—and joined the Federal Deposit Insurance Corporation. Most savings banks in other states have not followed the lead of those in New York, however, since only 191 mutual savings banks in the United States out of a total of 541 had joined the F.D.I.C. by the end of 1946.

Investments and mortgage loans of mutual savings banks. Table 25 indicates the principal assets and liabilities of savings banks, revealing that in recent years their holdings of United States Government securities have greatly increased, while the volume of their loans has declined slightly since 1938. Their holdings of bonds other than U. S. securities have, it will be observed, declined steadily during this 8-year period. The low yield on government securities which now make up the great bulk of their earning assets has forced savings banks to lower their interest payments on deposits. Today, an individual saver can get a return on Series E savings bonds that is considerably higher than his return on deposits in a savings bank.

In most states the bank investments eligible to be held by savings banks are rigidly restricted by the use of "legal lists." Only bonds listed may be bought by the savings banks. Government bonds, state and municipal bonds, railroad and public utility bonds have predominated in these legal lists. Recently, however, some liberalization has taken place. In New York, it has been provided that the Banking Board, upon recommendation of twenty banks, can approve additions to the legal list of bonds that previously were not eligible for such listing, such as high-grade industrial bonds. Experience, especially

**TABLE 25**  
**PRINCIPAL ASSETS AND LIABILITIES OF MUTUAL SAVINGS BANKS, 1938-1947**  
(In millions of dollars)

Class of bank and call date	Loans and investments				Cash assets	Deposits			Total capital accounts	Number of banks	
	Total	Loans	Investments			Inter- bank	Other				
			Total	U. S. Govern- ment obliga- tions			Other securi- ties	De- mand			Time
All mutual savings banks:											
1938—Dec. 31	10,156	4,896	5,261	2,874	2,387	581	10,280		10,280	1,304	554
1939—Dec. 30	10,216	4,927	5,289	3,101	2,188	818	10,524		10,524	1,309	551
1940—Dec. 31	10,248	4,956	5,292	3,215	2,078	966	10,659		10,659	1,292	551
1941—Dec. 31	10,379	4,901	5,478	3,704	1,774	793	10,533		10,533	1,241	548
1942—Dec. 31	10,754	4,695	6,059	4,572	1,487	663	10,668		10,668	1,236	546
1943—Dec. 31	11,871	4,484	7,387	6,090	1,297	797	11,738		11,738	1,276	545
1944—Dec. 30	13,931	4,370	9,560	8,328	1,232	584	13,376		13,376	1,378	543
1945—Dec. 31	16,208	4,279	11,928	10,682	1,246	609	15,385		15,385	1,592	542
1946—June 29	17,125	4,356	12,769	11,438	1,331	747	16,281		16,281	1,715	541
Dec. 31	17,704	4,526	13,179	11,778	1,400	818	16,869	1	16,869	1,784	541
1947—Dec. 31	18,650	4,930	13,720	12,000	1,770	880	17,780		10	1,870	533

Source: *Federal Reserve Bulletin*, March 1948, p. 304.

that gained in the depression years of the 1930's, has proved that the legal list provides no great assurance of safeguarding the savings banks against losses on their bond holdings.

Since almost three-fourths of all securities held by savings banks are government securities, the managers of the bond portfolios are as much interested in problems relating to the refunding operations of the Treasury and in Federal Reserve policies relating to the federal debt as are the commercial banks. In this connection it should be observed that the Treasury has taken a different attitude toward savings banks from that taken toward the government security holdings of the commercial banks. This is reflected in the extent to which the Treasury has made some issues of government bonds ineligible for commercial bank ownership yet eligible for ownership by savings banks. Evidently, commercial banks are thought to possess money-creating powers not possessed by savings banks. To the extent that savings banks accumulate the savings of the public and act merely as agencies for the investment of the public's money, this is true.

Nevertheless, savings banks through their lending operations may increase the turnover of money, especially now that the scope of their lending activities has been liberalized. Again using New York for illustrative purposes, the tendency toward the liberalization of the lending operations of savings banks is seen in an amendment to the New York laws (1945) that permits savings banks to establish and to finance corporations to carry out housing projects. This may be done by savings banks joining together in such ventures, or by the Institutional Securities Corporation's engagement in such ventures. In the latter case, the savings banks buy debentures from the Institutional Securities Corporation which uses the proceeds to participate in real estate ventures. Only 5 per cent of a bank's assets or one-half of its surplus, whichever is smaller, may be so invested.

In such direct participation in real estate ventures, the savings banks have followed the lead of insurance companies, which have also invested savings directly in housing projects. This development is a radical departure from traditional policies of buying bonds which have been tested in the market and of buying mortgages with good margins of safety, that is, mortgages secured by property values that exceed the mortgagor's liabilities.

In view of the fact that savings banks handle the savings of low-

income people, most states have enacted special legislation concerning the mortgage loans of savings banks. Typical provisions in such legislation are that total mortgage loans must not exceed 65 per cent of the assets of savings banks and that no loan must be made for more than 60 per cent of the appraised value of improved property against the security of which the loan is made. Exceptions, however, are provided for, such as loans insured under the Federal Housing Administration.

## INVESTMENT OF TRUST FUNDS

Commercial banks perform many activities that have little to do with their main functions, which center around deposits, loans, and investments. The most important of these activities is referred to as the "trust" business, in which national banks were not permitted to engage until the passage of the Federal Reserve Act in 1913. Section 11 (K) of the Federal Reserve Act permits national banks to act in a fiduciary capacity in the same manner and to the same extent as do state banks in the state in which the national bank is located. Today, most of the larger state and national banks have trust departments, while the smaller banks cannot attract a sufficient volume of trust business to justify the establishment of trust departments.

The Federal Reserve Act requires that national banks ". . . shall segregate all assets held in a fiduciary capacity from the general assets of the bank and shall keep a separate set of books and records showing in proper detail all transactions engaged in under authority of this subsection."<sup>7</sup> A further separation of commercial banking and trust banking is provided by another paragraph of the Federal Reserve Act which reads as follows:

No national bank shall receive in its trust department deposits of current funds subject to check or the deposit of checks, drafts, bills of exchange or other items for collection or exchange purposes. Funds deposited or held in trust by the bank awaiting investment shall be carried in a separate account and shall not be used by the bank in the conduct of its business unless it shall first set aside in the trust department United States bonds or other securities approved by the Board of Governors of the Federal Reserve System.<sup>8</sup>

<sup>7</sup> Federal Reserve Act, Sec. 11 (K) par. 14.

<sup>8</sup> Federal Reserve Act, Sec. 11 (K) par. 15.

The nature of the trust business. The *trust business* is the business of (1) settling estates, and (2) administering trusts and performing agencies for individuals, business firms, and institutions.

Although these services may be performed by individuals, the advantages that accrue from their performance by trust institutions are strong. Among these advantages the following compel the greatest attention.

1. The contingency of death or physical incapacity of an individual who has served as administrator, executor, or trustee may bring about sudden termination of his services, thereby necessitating the appointment of another person to fulfill the same duties. This change causes a disruption of administration which is not encountered in the case of a trust institution, since a trust institution enjoys permanency not possessed by an individual.

2. The trained staff of a trust institution assures a high degree of efficiency in the performance of its services. Investment and legal problems, for example, are in the hands of persons well qualified to handle them.

3. A trust institution has greater financial responsibility than an individual trustee.

4. Another assurance of satisfactory service from a trust institution is that it has a reputation to maintain. A trust institution could hardly expect to continue to attract a profitable volume of business without rendering satisfactory services.

Services rendered by trust institutions in personal trusts. A trust institution may be designated in a will to act as an *executor* of an estate. If a person dies intestate (without a will), a trust institution may be appointed by the court to act as *administrator* of an estate.

A trust institution, named as executor of an estate, may in the same will be designated to execute a trust created by that will. In the capacity of executor, it liquidates the estate. In the capacity of trustee, its duty is to care for the funds or property as directed in the trust that is established by the will. In this case, the trust institution becomes a *testamentary trustee*. From this source most of the personal trust business is derived.

*Voluntary trusts*, often called living trusts, consist of placing property or property rights in the possession of a trustee for any lawful

purpose. A person who is contemplating the creation of a voluntary trust for the benefit of others, the beneficiaries, has a choice of establishing it either on a revocable or irrevocable basis. In the irrevocable type the transfer cannot be revoked by the creator of the trust and recovered by him, except that he may retain a "reversionary interest," that is, he may reacquire the trustee property upon the happening of a contingency, such as death of the beneficiary. An irrevocable trust is tantamount to a gift, which removes the property from the taxable estate of the donor if he did not retain in the trust any power to alter the beneficial interest of the beneficiaries. A revocable trust allows complete freedom of action, but does not have the tax advantages of the irrevocable type of trust.

*Life insurance trusts* are either funded or unfunded. In the funded type, the policyholder deposits securities on an irrevocable basis to the trustee, providing that the income from the securities is to be used by the trustee to pay premiums on the insurance policy. In the unfunded type, the insurance policy is made payable to the trustee who administers the funds received from insurance upon the death of the policyholder, according to the terms of the insurance policy and the trust agreement.

Although many other fiduciary services are rendered by trust companies under personal trust, the ones that have been described briefly indicate the broad scope of their operations.

*Trustee under corporate deed of trust.* In addition to services rendered under personal trust agreements, many trust companies, invariably the larger ones located in the financial centers, act as trustees for the benefit of bondholders. These trusts arise when corporations in need of capital float bonds with mortgages as security. Since each bondholder cannot hold the mortgage security, a trust company holds the mortgage. In case of default, the trustee is empowered to sell the mortgaged property and otherwise act to protect the bondholders as provided in the bond contract and the deed of trust.

*Agency services of trust companies.* Some trust companies act as *transfer agents* for the stocks of corporations, in which capacity they keep the stock transfer book and make all transfers of stocks as they pass from sellers to buyers. Trust companies also act as registrars of stock, in which capacity they check both the old and new stock certificates to see that the volume of new certificates issued equals



the volume of old certificates cancelled, the purpose being the prevention of fraudulent overissues of stocks. Since it is the function of the registrar to act as a check upon the issuing corporation, a trust company does not act as both transfer agent and registrar for the same corporation.

**Investment of trust funds.** In the administration of personal trusts, an important function of the trust company, like that of the savings banks, is to invest the trust funds in its care. The investment problem is a difficult one for the trust department because the investment requirements of each account differ from the others. Each account, with the exception noted below, must be handled separately.

In the absence of specific authority in the trust agreement permitting the trust company to do otherwise, the investment of trust funds is restricted to the purchase of obligations defined by statute as "legal investments." As with the legal lists for savings banks, the legal investments for trust companies have reflected preferences for federal, state, and municipal bonds, railroad bonds, and, in some states, public utility bonds. Since some bonds on these lists may be bonds on which the issuers have defaulted, the trust companies cannot blindly follow the legal list of the state, which legal list is not intended to be an infallible guide. Specific authority may be granted by the trustor which allows the trustee to use his judgment concerning the investment of trust funds in which case the trustee is freed from the use of the legal list unless he prefers nevertheless to use it.

In an effort to avoid some of the difficulties involved in the investment of trust funds, some states have permitted the use of the *common trust fund*, or commingled trust fund. By this plan the funds of small trusts, under specified restrictions, may be joined into a common investment fund in which the small trust accounts share on a pro rata basis. Some reports indicate satisfaction with this plan, while others cast doubt upon its efficacy as far as costs of operation are concerned.

Since the great bulk of trust funds today are invested in government securities, the trust companies are as much interested in the problems related to the federal debt—the refunding operations of the Treasury, debt management, etc.—as are the commercial banks and the savings banks. It is because of this common interest in these

problems that we have included the foregoing description of the trust business in this chapter devoted to bank investments.

### STUDY QUESTIONS

1. "Bank purchases of government securities increase deposits, but bank purchases of corporate securities do not have that effect." Do you agree? Explain.
2. "According to the traditional theory of commercial banking, a bank might properly invest its capital funds and its time deposits in long-term securities, but it should invest its demand deposits in commercial loans." Criticize this statement.
3. "While an individual bank might gain cash by selling bonds in the open market, all banks cannot gain cash by doing so." Explain.
4. Demonstrate the difference between bank sales of bonds in the open market and sales to the Federal Reserve banks.
5. Demonstrate with bookkeeping entries the effects of a sale of bonds by a bank to one of its own depositors.
6. Why did bankers object to the use of rating manuals in the examiners' appraisals of their bond holdings?
7. "If bank examiners used only current market prices in their appraisals of bank security holdings, bank examinations might be a factor of instability in the security markets." Explain.
8. Describe the usual terms of issuance of the different types of marketable United States Government obligations and current yields (obtained by consulting the latest issue of the *Federal Reserve Bulletin*) on each type.
9. Explain the features of Series E, F, and G savings bonds.
10. "If in a period of falling interest rates, a bond falls in price, the investor has suffered a credit-risk loss." "If in a period of rising interest rates, a particular bond falls in price, the investor most probably has suffered a money-risk loss." Do you agree with both of these statements? Explain.
11. Following Rodkey's analysis, what might be a bank's third line of defense against unforeseen adverse developments? What is the function of the permanent bond portfolio of a bank?
12. State some of the considerations involved in a decision of a banker to buy government securities rather than corporate securities, or the reverse decision.
13. Why must the bank be alert to the Treasury's policies of debt management and the monetary policies of the Federal Reserve System?
14. Enumerate differences between mutual savings banks and commercial banks.

15. "The 'legal list' is not an infallible guide to the investments of a savings bank." Explain.
16. "Although a corporate trustee has many advantages over an individual trustee, there may be cases where an individual may serve satisfactorily." Do you agree?
17. Differentiate *executor*, *administrator*, and *testamentary trustee*.
18. Differentiate revocable and irrevocable trusts.
19. Explain the purpose of the common trust fund.
20. What services may a trust company render to corporations?
21. Why is the investment problem of a trust company particularly difficult?

# CHAPTER

## 12

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### BANKS MAINTAIN RESERVE BALANCES

**Introduction.** That the reserve balances of banks are an important element in the commercial banking process is made clear by the following recital of propositions previously explained: (1) Deposits are debts of banks and are incurred on the promise of their being paid in cash. (2) Earning assets of banks are debts owed to the banks on which the banks earn an interest income. (3) The volume of earning assets must necessarily be less than the volume of deposits because banks are required to maintain reserve balances equal to a specified percentage of their deposits. (4) Excess reserves are undesirable from a profit-making point of view since reserve balances are a nonearning asset; hence, excess reserves exist only because earning assets are unavailable or because reserve balances are thought to be more readily available for meeting the claims of depositors than are earning assets. (5) The power vested in central bank authorities to alter reserve requirements is a power that partially determines the extent to which banks might accumulate earning assets.

Since the reserve balances of banks occupy a strategic position in the commercial banking process, a further elaboration of their nature and functions is appropriate. This discussion also serves to provide a better background for later analyses of central-bank and Treasury operations in the money market.

#### THE NATURE OF THE BANKS' RESERVES

The old concept of the banks' reserves. A concept of the reserves of banks which may now be regarded as primitive considered re-

serves as consisting of a sum of money or metals that might be used to meet the demands of the banks' creditors in emergencies. This concept was probably derived from the necessity for maintaining the redeemability of the banks' notes, which were once issued by any bank that chose to issue them. It might also be true that the notion that reserves are a sum of a physical thing was derived from a concept of bank deposits that regarded deposits as something that could in part be invested and in part be retained as a reserve that might be used in an emergency.

That these ideas are false when applied to the present-day banking system can be proved by the following considerations: (1) Today, in the United States, the individual bank does not issue currency and for that reason does not keep a reserve to maintain convertibility of currency, and all money issued by the Treasury or by the Federal Reserve banks is lawful money, is legal tender, and is not convertible into coins or metal. The reserve balances that banks are required to maintain are a percentage of their deposits—not a percentage of their outstanding notes (currency). Since the individual bank does not issue notes, it has no concern over their convertibility into something more acceptable; its concern is over the convertibility of its deposits into the currency or other money issued by the Treasury or the Federal Reserve banks. Therefore, the most important question to the individual bank today is the convertibility of its assets into currency so that it may maintain the convertibility of its deposits into currency. (2) The notion that reserves are derived from deposits, a part of which may be lent or invested and a part of which may be retained as reserves, is belied by the fact that deposits are debts of banks, and are not in whole or in part lent or invested, and no part of them can be held as reserves. To be sure, an individual bank can gain deposits and reserves at the expense of other banks, but all banks cannot gain deposits and reserves at the expense of each other. To say that the banks of the banking system gain reserves from deposits does not explain the derivation of deposits. One method by which deposits of the banking system can expand is by general bank credit expansion. When such expansion takes place, more reserves are not gained; rather, more reserves are needed since required reserve balances are a percentage of deposits. Therefore, the question that must be answered is, How do banks

gain the greater volume of reserves that are required should the volume of their deposit liabilities rise? This question is answered in the following explanation of the newer concept of the nature of bank reserves.

The new concept of bank reserves. The misconception that bank deposits can in part be invested in loans and securities and in part be retained as reserves is probably attributable to the inadequacies of the analysis of the banking process from the point of view of the individual bank. When a bank receives for deposit a check drawn on another bank, it is true that the first bank's deposits and reserve balance increase by the amount of the check. The second bank's deposits and reserve balance, however, decrease by the same amount. The deposits and reserve balances of the two banks, or of the banking system, do not increase by such shifting of deposits and reserve balances.

The misconception that reserve balances are held for the purpose of preserving liquidity, that is, that they are something from which withdrawals can be made to meet the demands of the bank's depositors, is probably attributable to the correct observation that reserve balances are more readily available upon the liquidation of a bank than are the bank's earning assets. This observation, however, ignores the fact that for a "going bank" only its excess reserves are available to meet the claims of its creditors.

The present-day concept of required reserve balances declares that their function is not to preserve liquidity, but rather to place limits on bank credit expansion. If no reserve requirements were imposed on banks, there would be no assignable limits to bank credit expansion except the extent of the demand for bank credit and the collective judgment of bankers concerning the amount of credit that should be granted. Although great reliance on the good judgment of bankers is necessary under a system of reserve requirements, it must be admitted that the history of banking is replete with illustrations of overexpansion of bank credit. It may, obviously, be argued that a greater measure of liquidity of bank assets is assured by reason of the imposition of reserve requirements and that such requirements do, therefore, preserve liquidity in the banking system. This argument does not support the older and weaken the later concept of bank reserves; it, rather, strengthens the later

concept, for it admits the proposition that the purpose of reserve requirements is to control bank credit expansion.

The newer concept of bank reserves—that reserve requirements are an instrument of credit control—recognizes more clearly than does the older concept that bank credit expansion and contraction is a social phenomenon. That the “reserve problem” of an individual bank cannot be analyzed except by reference to what is happening in the banking system is demonstrated by the observation that an individual bank’s reserve balance is affected by the degree of credit expansion or contraction in the banking system. An individual bank’s reserve balance declines if that bank expands credit faster than the rate of expansion in the banking system. If in a period of general contraction the individual bank fails to contract credit at about the same rate as the rate of contraction in the banking system, it loses reserves. Similarly, the individual bank’s reserve balance may increase as a result of developments in the banking system. Thus the reserve balance records the impact of the banking system on the individual bank. The force of impact of general credit conditions on each bank can be tempered by such actions of the central bank as changing the reserve requirements and open market operations. These actions of the monetary authorities clearly recognize that reserve balances of the individual bank reflect general credit conditions and that reserve requirements are an instrument of credit control.

These observations do not mean that there is no physical basis for the bank’s reserve in the present banking system of the United States. There is such a base. It is the monetary gold stock. That being the case, what purpose is served by an allegation of important differences between the older and the newer conceptions of bank reserves? The important difference is that the metallic reserve in the present banking system of the United States is required of the Federal Reserve banks and it is not required of the individual commercial banks. The reserve balances of the member banks are one step removed from the metallic reserve, and the reserves of nonmembers are two steps removed. The metallic reserve of the Reserve banks must be gold (gold certificates received in exchange for gold bullion deposited with the Treasury) in an amount not less than 25 per cent of their deposit and note liabilities. Although the required gold

reserves limit the extension of Federal Reserve bank credit, the presence of this requirement has much less influence on the operations of the commercial banks than would an equal requirement (25 per cent) imposed against the deposits of the commercial banks. If such requirement were in effect, the amount of gold held by each bank would determine the amount of credit it might extend. The ratio of each bank's deposits to its gold reserves could then not exceed 4 to 1. This is not the case in our banking system. Instead, the gold reserve is held by the Federal Reserve banks and many actions can be taken by the monetary authorities—the Federal Reserve banks and the Treasury—to raise or lower the reserve balances of banks irrespective of the amount of the monetary gold stock, unless the gold stock is so small as to circumscribe the actions that the monetary authorities might wish to take. Among the discretionary powers concerning bank reserves is the power to alter, within limits, the reserve requirements. This power can be exercised without much, if any, regard to the amount of the gold stock. Indeed, it is as likely as not that actions to raise the reserve requirements and to lower the reserve balances of banks will be taken in periods when the monetary gold stock is rising as when it is falling.

These observations lead to the conclusion previously reached that the function of reserve requirements and the purposes of actions designed to raise or lower reserve balances of banks is to control the volume of bank credit.

## THE RESERVE OF THE INDIVIDUAL BANK

The observations concerning the nature and functions of bank reserves that have been made indicate their importance both to the individual bank and to the banking system. The individual bank possesses four kinds of assets that might be called reserves, namely, vault cash, deposits with other banks, deposit balances with a reserve depository, and assets that can be converted into cash quickly and without loss. The first, second, and third of these kinds of assets are called "primary" reserves, while the fourth is called "secondary" reserve. The determination of the size and character of these assets is appropriately referred to as the "reserve management" problem of the individual bank.



The size of the vault cash of a bank. The amount of cash in vault kept by a bank is determined by itself, not by any regulatory or supervisory authority. Vault cash is used to meet the ordinary demands of depositors, which demands exhibit seasonal and irregular fluctuations. A typical seasonal fluctuation is that which is experienced by most banks before holidays. For example, a bank must be prepared to convert other assets into cash in vault shortly before the Christmas holiday, when depositors can be expected to draw heavily on their accounts to obtain coins and currency. After this holiday season vault cash can be expected to accumulate in quantities that will justify the exchange of cash for other assets. Irregular fluctuations in the public's demand of coins and currency are more difficult to anticipate with accuracy. A bank with a small number of large depositors is in a different situation with respect to this problem than a bank with a large number of small depositors. The situation of a bank in a rural community differs from that of a bank in a highly industrialized community. These differing situations require not only an alert handling of vault cash, but also efficiency in the entire asset management of the individual bank.

Balances with other banks. An analysis of the financial statement of any bank reveals the inadequacy of vault cash to meet more than the normal claims of its depositors. The normal situation is that cash is being deposited in banks at about the rate at which it is being withdrawn. To meet the eventuality of inordinate demands for cash, banks may keep an account with nearby city correspondent banks from which they can draw the required amounts of coins and currency. This action, of course, does not minimize the burden placed on the total assets of banks by unusual demands on the part of the public for circulating money. As has been explained, the banks of the banking system must be able to convert assets into cash at a money-creating authority if these demands are to be met. The city correspondents of rural banks act merely as agents in this process.

To the extent that the balances of rural banks with their city correspondent banks are reserve balances required of state banks that are not members of the Federal Reserve System, only the excess reserves are available to be drawn upon to meet demands for cash payments. In the case of these reserve balances, as has been explained, the nonmember banks are a part of a system of redeposited

reserves. The ultimate gold reserve kept by Federal Reserve banks is, then, two steps removed from the reserves of the nonmember banks. The use of illustrative figures makes this clear. Suppose a nonmember bank has deposits of \$1 million and its reserve requirement under state law is 15 per cent. Suppose, further, that it keeps its reserve balance with a reserve city bank that is required to keep a 20 per cent reserve balance with the Federal Reserve bank which, in turn, is required to maintain a 25 per cent reserve in gold. The gold reserve against the deposits of the member bank is, then, 20 per cent of 25 per cent, or 5 per cent. The gold reserve against the deposits of the nonmember bank is, accordingly, 15 per cent of 5 per cent, or 0.75 per cent.

The foregoing discussion of balances with other banks indicates that several purposes are served by them. One is that these balances serve to meet reserve requirements under the laws of the states in which the nonmember banks are located. Another is that these bankers' balances are useful as an exchange and clearing fund. A third purpose for maintaining them is seen in that fact that many rural banks keep their security holdings with their city correspondents who credit and debit the appropriate accounts as interest payments are received, as security issues mature, as security issues are purchased, etc.

Balances with the Federal Reserve banks. Legislation on reserve requirements occupies an important position in the monetary and banking history of the United States. This legislation can conveniently be summarized under three headings, namely, (1) early state laws and practices, (2) the reserve provisions under the National Bank Act of 1864, and (3) the reserve provisions under the Federal Reserve Act and amendments thereto.<sup>1</sup>

Early state laws and practices. Early reserve requirements developed chiefly from attempts to prevent depreciation of bank notes, which, like bank deposits, were at first subjected to no legal reserve requirements whatsoever. Since deposits in this early period were of minor importance, emphasis was placed on protecting the note issues of banks. After several attempts of a voluntary nature to cope with

<sup>1</sup> The following discussion of legislation concerning reserve requirements follows closely the discussion of the same topic in the *Federal Reserve Bulletin*, November 1938; pp. 954-960.

the problems of depreciating currencies, a number of the states, by 1863, had required reserves in one form or another to protect against the overissue of bank notes and to assure their convertibility. In Massachusetts and Louisiana reserves were required against the deposit liabilities of banks as well as against their note liabilities. The beginnings of reserve requirements, therefore, are to be found chiefly in needs to offer protection to note holders rather than to depositors.

Reserve requirements under the National Bank Act of 1864. The National Bank Act of 1863 provided for required reserves of 25 per cent against the notes and deposits of banks chartered under the provisions of this Act. The national bank notes, issued under the provisions of this Act, were also secured by pledge of United States Government securities. When this Act was rewritten in 1864, reserve requirements were made less burdensome, especially for banks outside the cities designated as "redemption cities." Reserve requirements for banks outside the redemption cities were lowered from 25 per cent to 15 per cent. Later, as a consequence of the panic of 1873, reserve requirements against national bank notes were abolished, and a measure that required a 5 per cent redemption fund was substituted for previous reserve requirements against these notes.<sup>2</sup> Hence, reserve requirements thereafter applied to deposits only.

By an Act of Congress in 1887 the cities previously called "redemption cities" were designated "reserve cities" and New York City was designated as a "central reserve city."<sup>3</sup> These designations indicated that a system of redeposited reserves had been established. No differentiation was made between demand and time deposits in this legislation, as was the case in most states where either no reserves were required against time deposits or lower reserves were required than against demand deposits.

Reserve requirements under the Federal Reserve Act. In the original Federal Reserve Act reserve requirements against demand deposits were 18 per cent for central reserve city banks, 15 per cent for reserve city banks, and 12 per cent for country banks. Reserves re-

<sup>2</sup> Act of June 20, 1874, secs. 2 and 3.

<sup>3</sup> Later Chicago and St. Louis were designated "central reserve" cities. Still later, St. Louis was omitted from that classification.

quired for time deposits were set at 5 per cent for all member banks. Several amendments to the Act pertaining to reserve requirements were passed, the most important being those adopted in 1917, 1933, and 1935. These amendments were designed to induce state banks to apply for admission to the Federal Reserve System and to increase the potential lending power of the Federal Reserve banks.

An Act approved June 21, 1917 provided that all legal reserves of member banks must thereafter be held with the Reserve banks. The reserve requirements were established for demand deposits at 13 per cent for central reserve city banks, 10 per cent for reserve city banks, and 7 per cent for country banks, while for time deposits the new requirements were 3 per cent for all member banks. All requirements concerning vault cash were eliminated. Prior to adoption of this amendment, member banks had been engaged in making the transition from the old system of keeping reserve balances with other banks. Efforts were made both before and after the amendment of 1917 to induce banks to deposit gold and gold certificates with the Federal Reserve banks. These efforts were successful, with the result that the lending power of the Federal Reserve banks was greatly increased.

In 1933, an amendment to the Federal Reserve Act gave the Federal Reserve Board power to increase reserve requirements whenever the Board, with the approval of the President, declared an emergency to exist by reason of credit expansion. The Banking Act of 1935 clarified and modified the amendment of 1933 concerning reserve requirements by empowering the Board, now designated the Board of Governors of the Federal Reserve System, to raise and lower reserve requirements, but the amount of the reserves required to be maintained by any member bank as a result of such changes was to be no less than the reserves required on the date of enactment of the amendment nor more than twice the amount. The purposes served by this amendment are discussed in the chapter devoted to a discussion of the instruments of credit control.

Changes in member bank reserve requirements since 1917 are set forth in Table 26.

**Secondary reserves.** The primary reserves of a commercial bank are usually sufficient to meet only slightly more than the normal demands of its depositors. In an emergency situation, such as a "run"

of depositors, the sum of vault cash, excess reserves, and free balances with other banks is likely to be inadequate. In this case, the bank must liquidate other assets to gain the required amount of cash. These other assets that can most quickly and easily be converted into cash with little or no loss are called secondary reserves.

**TABLE 26**  
**MEMBER BANK RESERVE REQUIREMENTS**  
[Per cent of deposits]

Period in effect	Net demand deposits <sup>1</sup>			Time deposits (all member banks)
	Central reserve city banks	Reserve city banks	Country banks	
June 21, 1917—Aug. 15, 1936	13	10	7	3
Aug. 16, 1936—Feb. 28, 1937	19½	15	10½	4½
Mar. 1, 1937—Apr. 30, 1937	22¾	17½	12¾	5¼
May 1, 1937—Apr. 15, 1938	26	20	14	6
Apr. 16, 1938—Oct. 31, 1941	22¾	17½	12	5
Nov. 1, 1941—Aug. 19, 1942	26	20	14	6
Aug. 20, 1942—Sept. 13, 1942	24	20	14	6
Sept. 14, 1942—Oct. 2, 1942	22	20	14	6
Oct. 3, 1942—Feb. 26, 1948	20	20	14	6
Feb. 27, 1948—Sept. 16, 1948	22	20	14	6

<sup>1</sup> Demand deposits subject to reserve requirements, i.e., total demand deposits minus cash items in process of collection and demand balances due from domestic banks (also minus war loan and series E bond accounts during the period April 13, 1943–June 30, 1947, and all U. S. Government demand accounts April 24, 1917–August 23, 1935).

Source: *Federal Reserve Bulletin*, March 1948, p. 294.

The accepted definition of the term secondary reserves—assets that can quickly and easily be converted into cash—is not an exact one because the identity of the assets that fit the definition is not precisely determinable. Whether or not a certain type of bank assets serves as a secondary reserve depends not only on its characteristics but also on the state of the economy at the time its acceptability as a secondary reserve is tested. The two traditional tests of a secondary reserve asset are *liquidity* and *marketability*. Obviously, a bank asset does not possess the same degree of liquidity and marketability in a period of depression as in a period of prosperity. It is in a period of depression that liquidity and marketability are most severely tested, and the test may be so severe that hardly any

type of bank asset can pass the test in the absence of central bank action which assures its liquidity. In fact, the terms "liquidity" and "marketability," frequently used in defining the nature of secondary reserves, need to be carefully defined and analyzed. These terms will be examined in the next section of this chapter.

Since we are here concerned with the reserve problem of the individual bank, the fact that the assets of some banks, particularly in depression periods, prove to be superior to those of other banks must be recognized. In other words, some banks have a greater percentage of assets that can readily be converted into cash than have others. Taking the depression period of 1930-1933 as an example, it was made quite clear that banks with a large percentage of long-term real estate loans and high-yield speculative bonds suffered greater losses than those with a larger percentage of short-term paper, government securities, and high-grade bonds. Little, if any, losses were incurred on holdings of bankers' acceptances, stock-exchange collateral loans, open market commercial paper, and short-term government securities. Only slight losses were taken on short-term customers' loans and industrial bonds and public utility bonds listed by the rating agencies as the highest grade bonds. Since these types of loans and investments have been discussed in previous chapters, further analysis of them would be repetitious.

## RESERVES OF THE FEDERAL RESERVE BANKS

The pooling of reserve balances. In the early period of banking in the United States, prudent bankers kept metallic reserves in their own vaults as a method of maintaining the convertibility of the bank notes they had issued. These reserves were partial reserves, for no profit-making purpose would be served by issuing bank notes if 100 per cent specie were kept on reserve. The banks that had printed notes lent them to customers in amounts in excess of the metallic vault reserves. The issuing banks, of course, hoped that their notes would not be presented for redemption in large volume. Later, deposit banking developed wherein banks lent their credit rather than their bank notes to customers. Since the development of deposit banking in its earlier stages overlapped the period when commercial banks issued notes, reserves performed a dual function,

namely, protection against both bank notes and bank deposits. These reserves continued for a time to be kept in the vaults of each bank. A compromise between vault reserves and pooled reserves was effected under the National Bank Act. Under this Act national banks were permitted to keep their reserves either in their own vaults or with designated reserve depositories. This arrangement was continued for the first three years of the Federal Reserve System and thereafter was abandoned, when in June 1917, an amendment to the Federal Reserve Act required that all member bank reserves be kept with the Federal Reserve banks, and vault cash was no longer to be counted as part of the banks' reserves. In the meantime, all metallic reserves both against deposits and currency (the currency-issuing privilege having been taken away from all commercial banks) were impounded in the Federal Reserve banks. Today, the Treasury holds all the monetary gold, and the Federal Reserve banks hold gold certificates in an amount which must exceed 25 per cent of their deposit and note liabilities.

This pooling of reserves has enabled banks to keep lower reserve ratios than would be the case if each bank kept its reserves in its own vaults. If each bank kept—say 20 per cent—metallic reserves in its vaults against its deposit liabilities, the total amount required would be much greater than the present metallic reserve requirements of the Federal Reserve banks, as has been explained earlier in this chapter.

The Federal Reserve banks possess lending power. The reserve balances of member banks on deposit with the Federal Reserve banks are liabilities of the Reserve banks. Contrary to widespread belief, these deposits are not the source of the Reserve banks' ability to lend and invest. Rather, the source of the Reserve banks' ability to lend and invest is found in their ability to extend credit and create currency. That this is true can be demonstrated by considering the results of the acquisition of earning assets by the Reserve banks. When they acquire securities by their purchase in the open market, member bank reserve balances are increased. The result, therefore, is the creation of reserve balances, not the use of reserve balances. The same is true when the Reserve banks rediscount customers' paper for the member banks. As they acquire earning assets, they incur deposit liabilities.

Szymczak has demonstrated the proposition that the reserve balances of member banks are not the source of the Reserve banks' lending power in the following words:

The reserves of member banks on deposit with the Reserve Banks are not used in the lending and investing transactions of the Reserve Banks and do not determine the ability of the Reserve Banks to lend and invest. Furthermore, the purpose of reserve requirements is not at all to provide the Reserve Banks with funds, and generally speaking they are not in fact a means by which funds are acquired. The Reserve Banks are not in a competitive business and are not looking for funds. They generate funds—as a dynamo generates electricity. They might conceivably be without a cent of reserve deposits and yet might make loans and purchase investments as much as ever.

For the sake of illustration, suppose the Reserve Banks had no deposits. Suppose member banks maintained no reserve balances whatever at the Reserve Banks but instead were required by law to keep their reserves in Federal Reserve notes held in the member banks' own vaults. Then if the Reserve Banks were called on to discount, or if they were called on to buy securities, they would in either case complete the transaction by paying out their notes in exchange for what they received. Under these circumstances, the Reserve Banks, with no deposit liabilities but with note liabilities in their stead, would have the same lending power they now have, and they would have the same assets they now have.

It happens, however, that the Federal Reserve Banks do have deposit liabilities and that these deposit liabilities constitute the legal reserves of member banks. It is the need of member banks for additions to these reserves that gives direct occasion for the Federal Reserve Banks to discount member bank obligations. Increases in these reserves also result from purchase by the Reserve Banks of securities in the open market. When the Federal Reserve Banks acquire either the discounts or securities, they give in exchange not notes but credit to member banks' reserve balances. Consequently if the Federal Reserve Banks increase their portfolios of discounts and of securities, they equally and simultaneously increase their aggregate deposit liabilities, that is, the aggregate reserves of member banks. Obviously, an operation that increases the reserve balances of member banks as a whole is not an operation that uses those balances.<sup>4</sup>

Does deficit financing of the federal government create reserves? It is sometimes said that the deficit financing by the federal government creates bank reserves. This is not true as can be demonstrated

<sup>4</sup> Szymczak, M. S., "Development of Federal Reserve Banking," *Federal Reserve Bulletin*, December 1940, p. 1259.



by following a typical financing operation of the Treasury. Suppose a bank buys government securities and gives the United States Government deposit credit. This is Step 1. Step 2 is a Treasury expenditure with a check drawn on the government deposit. The same bank, let us say, receives this check in a deposit by a war contractor. This step, then, results in a shift from the government's deposit to an individual's deposit. The net effect of these two steps is an increase in bank deposits of individuals, not an increase in reserve balances. In fact, the excess reserves of the bank decline because its greater deposit liabilities increase its required reserve balance.

It is true, however, that the banks as a result of the deficit financing of the government have acquired securities that might be sold or pledged to the Reserve banks in exchange for member bank reserve balances. Thus we have returned by means of this illustration to the previous conclusion that member bank reserve balances are created by an extension of Federal Reserve bank credit.

**Types of Federal Reserve banks' credit.** On May 28, 1947, the twelve Federal Reserve banks held the following types of earning assets: discounts and advances (\$130,159 thousand), industrial loans (\$1,603 thousand), U.S. Government securities (\$21,589,821 thousand), and other Reserve bank credit (\$297,163 thousand). It is obvious, therefore, that the Federal Reserve banks have extended credit largely on the basis of government securities, and only to a minor degree by the acquisition of other assets. Of the government securities held by the Reserve banks on the date mentioned, \$5,335,921 thousand were held under repurchase option and the remainder were held outright by the Reserve banks.

The overwhelming volume of government securities held by the Federal Reserve banks at the present time should not lead one to overlook the fact that there has taken place during the past two decades a great and significant liberalization of the lending powers of the Federal Reserve banks. While formerly their lending powers were limited to certain restricted classes of paper, various amendments to the Federal Reserve Act now provide that the Reserve banks may make advances to their member banks upon any satisfactory assets without regard to the maturity of those assets. In other words, the Reserve banks can now acquire a portfolio of any kind of assets they consider to be sound.

The limits on Reserve banks' lending power. From the explanations that have been offered, it should have been made clear that the Federal Reserve banks do not use the reserve balances of member banks. A further comment is, however, appropriate. If the Reserve banks used member bank balances to acquire their assets, it would follow that the greater those balances the greater would be the lending power of the Reserve banks and that a decline in those balances would reduce the Reserve banks' lending power. This is not true. The Reserve banks are required at the present time to maintain a gold certificate reserve of 25 per cent or more of their note and deposit liabilities. An increase in their deposit liabilities (member bank reserve balances) decreases the lending power of the Reserve banks because it decreases the reserve ratio. Conversely, a decrease in their deposit liabilities increases their potential lending power because it increases the reserve ratio. The same is true of the note liabilities of the Federal Reserve banks. The reserve ratio is the ratio of gold certificate reserves to the sum of the deposit and note liabilities of the Federal Reserve banks. The chief factors that decrease the reserve ratio of the Federal Reserve banks are:

1. An increase in money in circulation
2. An increase in member bank deposits
3. A decrease in monetary gold stock

An increase in money in circulation, in so far as such money is Federal Reserve notes, uses the gold certificate supply of the Federal Reserve banks to the extent of 25 per cent of the increase. In other words, an increase of \$1 billion of Federal Reserve notes uses \$250 million of gold certificates. An increase in bank deposits of member banks of \$1 billion requires about \$160 million of additional required reserve balances.<sup>5</sup> The Reserve banks are required to keep a gold certificate reserve of 40 per cent against this amount. Hence, an increase of a certain amount in Federal Reserve note circulation ties up over 6 times as much gold certificate reserve as does an equal increase in bank deposits. A decrease in monetary gold stock of \$1 billion uses \$1 billion of gold reserves. Thus, an increase

<sup>5</sup> The present reserve requirements—20 per cent against demand deposits of central reserve city member banks and reserve city banks, 14 per cent against demand deposits of country banks, and 6 per cent against time deposits of all member banks—amounts to about 16 per cent of total deposits of all member banks. (Reserve requirements were increased by steps in 1948.)

in Federal Reserve notes in circulation uses the gold certificate reserve to the extent of 25 per cent of the increase, while use of the gold certificate reserve in the case of an increase in member bank deposits is 4 per cent, and in the case of net losses of gold stock it is 100 per cent.

During the years of World War II, the great increase in money in circulation, mostly Federal Reserve notes, and in bank deposits, together with a decline in the monetary gold stock, accounted for a sharp decline in the Federal Reserve ratio. This ratio fell to 44.9 per cent in June 1945. Fears that it might fall close to or below the legal requirements led to the passage of an Act of Congress, which was reported in the *Federal Reserve Bulletin* as follows:

By Act of Congress, approved June 12, 1945, the reserve requirements of Federal Reserve Banks were reduced to a uniform minimum of 25 per cent in gold certificates against Federal Reserve notes in circulation and deposit liabilities, the authority for the use of direct obligations of the United States as collateral security for Federal Reserve notes was extended indefinitely, and the authority to issue Federal Reserve Bank notes and the authority to issue United States notes under the Thomas Amendment of May 12, 1943, were terminated.<sup>6</sup>

The cost of member bank reserve balances. The banker whose bank is a member of the Federal Reserve System frequently asks a question concerning the cost of maintaining reserve balances with the Federal Reserve bank. He may think of this alleged cost as an "opportunity cost" because his bank receives no interest on these balances, and he thinks he could lend these funds at interest in the absence of reserve requirements. The chief error in the reasoning back of this thought is attributable to a failure to view bank reserves from the point of view of the whole banking system. When the reserve problem is analyzed from the broader point of view, as distinguished from the point of view of the individual banker, it is seen that the reserve balances of member banks with the Reserve banks do not represent the same amount of funds extracted from the banking system. This is true because, as we have seen in previous observations, the Reserve banks can and do by extending credit create bank reserves. Through the rediscounting of customers' paper, the member bank gains reserves on the basis of which it may extend its

<sup>6</sup> *Federal Reserve Bulletin*, July 1945, p. 644.

lending operations. Likewise, open market purchases of securities increase bank reserves. Although these processes of creating reserves are not likely to be used in boom periods and it is more likely that Reserve bank operations will be used to effect the opposite result, the fact that Federal Reserve credit is available when banks need that credit should not be overlooked.

A further observation concerning the cost of maintaining reserve balances is that in the absence of any reserve requirements, banks would be impelled by self-interest and self-protection to maintain reserve balances. The sum of the self-imposed reserve balances of all banks in the absence of a central bank would probably be a larger percentage of total bank deposits than the sum of all reserve balances now required, relative to the amount of bank deposits now in existence. This is true because the amount of reserve balances maintained by the Federal Reserve banks is, as we have seen, a very small percentage of total member bank deposits. It is probably true also that total earning assets of banks are higher than would be the case in the absence of the Federal Reserve System or other central banking system.

The cost of maintaining reserve balances should also be analyzed in terms of the efficiency of the entire economic system. If a central banking system improves the efficiency of the economic system, by reason of maintaining more stable monetary institutions, the cost of maintaining reserve balances might rightly be thought to be nil.

The fundamental purpose of reserve requirements. From what has been said concerning the nature of bank reserve, it should be clear that reserve requirements are an instrument of credit control. In the hands of a central banking system the use of this instrument of control, especially when supplemented by other instruments of control, provides advantages to the member banks over a situation wherein no central bank action takes place. This is true largely because the central bank can view monetary conditions from a broader perspective than is possible for the individual bank and the central bank is not faced with the necessity of maximizing its profits. It can use its powers to prevent, as far as possible, an injurious overexpansion of bank credit and, in other situations, it can endeavor to forestall the development of a condition in which commercial banks are required

to sell their assets at continuously lower prices in order to bring cash out of private hoards.

### FIXED, AUTOMATIC, AND DISCRETIONARY RESERVE REQUIREMENTS

In the evolution of the present reserve requirements against the deposit liabilities of commercial banks and against the note and deposit liabilities of the Federal Reserve banks, first one and then another notion concerning the nature of reserves and the purpose of reserve requirements prevailed. These ideas, often indeterminable to an exact degree, seemed in most cases to center around the protection afforded by reserve balances, which were assumed to be available when needed by the individual bank. These reserve balances are available to a going bank, as we have seen, only to the extent of their excess reserves. (The Federal Reserve Act allows temporary deficiencies in the reserve accounts upon payment of specified penalty payments.) Emphasis has shifted to a new conception of the protection afforded by these reserve balances. It is not the availability of reserves balances to meet the needs of emergency situations that is stressed in present-day banking theory; it is rather that reserve requirements are an instrument of credit control and that this credit control is the factor that provides a measure of protection to depositors. Moreover, this credit control extends to the whole banking system and does not apply selectively to the individual bank.

These observations are made because the theory of reserve requirements is relevant to a discussion of the different possible methods of assessing reserve requirements. One method might be more nearly consistent than another with the idea that reserve requirements are an instrument of credit control.

**Fixed reserve requirements.** The term "fixed reserve requirements" refers to their being fixed by statute. They are fixed by state laws for banks that are not members of the Federal Reserve System and were fixed under the Federal Reserve Act for member banks until discretionary powers concerning member bank reserve balances were given the Board of Governors by amendments adopted in 1933 and 1935. Fixed reserve requirements, although they limit bank credit expansion, depending on the height at which they are set, do not

lend themselves to manipulation for purposes of credit control. The banking authorities can neither lower them in periods of depression nor raise them in periods of boom.

Criticisms of fixed reserve requirements come chiefly from those persons who think legal reserves should be subjected to changes by banking authorities as a means whereby the instability of the economy attributable to bank credit expansion and contraction might in part be offset. A criticism of a different type is that fixed requirements are likely to be inequitable. This criticism, which can with equal validity be directed against discretionary reserve requirements, is supported by reference to the present arrangement wherein the size of required balances varies according to the location of banks. It is doubtful, say these critics, that there is much, if any, justification for requirements almost 50 per cent higher for reserve city member banks than for banks classified as country banks. The historical justification—that reserve city banks are likely to be reserve depositories for many rural nonmember banks—is not true of all banks located in reserve cities, and many country banks are members of the Federal Reserve System who keep their reserve balances with the Federal Reserve banks. Furthermore, the classification of banks by size of cities is subject to the criticism of being inequitable, since some cities in the country bank class are much larger than others in the reserve city group.

Another criticism is that which is directed against the distinction that is made in present arrangements between demand and time deposits. It is quite arbitrary, according to these critics, to require 20 per cent reserves against demand deposits and only 6 per cent against time deposits. In support of this position it is pointed out that many demand deposits are more or less permanent and many time deposits have a fairly rapid turnover. Service charges on checking accounts and the regulations forbidding payment of interest on them have stimulated the use of time deposits, which in some cases serve the same purposes as checking accounts.

Criticisms have also been directed against the fixed reserve requirements under which the Federal Reserve banks operate. When the bill which became the Federal Reserve Act was being debated in Congress, it was proposed that the Federal Reserve banks should not be subject to any fixed reserve requirements. This idea did not

prevail in Congress because many Congressmen and others thought the absence of such requirements would be dangerous. The reserve requirements finally adopted after much controversy followed the fixed reserve idea, but it also empowered the Federal Reserve Board to suspend any reserve requirement, provided a graduated tax is paid on the deficiency.<sup>7</sup> A factor that makes these requirements against the Federal Reserve banks somewhat more flexible than would otherwise be the case is that one Federal Reserve bank can borrow from another. This was done on a rather extensive scale in the depression following World War I and again in 1933 when the pressures on some Federal Reserve banks were relieved by borrowings from the others that had a higher reserve ratio.

The member banks can also borrow reserves from one another. This sometimes makes possible avoidance of penalties on account of deficiencies in reserve balances. The procedure that is followed in the market for "federal funds," as it is called, is that loans of the excess reserve balances of some of the banks are made by drafts, usually for one day at a low rate of interest in favor of other banks that have deficiencies in their reserve accounts. Repayments are made by reversing the process.

**Automatic reserve requirements.** During the past two decades several suggestions were offered for making reserve requirements against member bank deposits more flexible. One of these was adopted, which provided for what we shall call "discretionary" reserve requirements. Other suggestions, which were not adopted, called for "automatic" reserve requirements, by which is meant that reserve requirements should vary according to an accepted formula.

<sup>7</sup> "(c) To suspend for a period not exceeding thirty days, and from time to time to renew such suspension for periods not exceeding fifteen days, any reserve requirements specified in this Act: *Provided*, That it shall establish a graduated tax upon the amounts by which the reserve requirements of this Act may be permitted to fall below the level hereinafter specified: *And provided further*, That when the reserve held against Federal Reserve notes falls below 25 per centum, the Board of Governors of the Federal Reserve System shall establish a graduated tax of not more than 1 per centum per annum upon such deficiency until the reserves fall to 20 per centum, and when said reserve falls below 20 per centum, a tax at the rate increasingly of not less than 1½ per centum per annum upon each 2½ per centum or fraction thereof that such reserve falls below 20 per centum. The tax shall be paid by the Reserve bank, but the Reserve bank shall add an amount equal to said tax to the rates of interest and discount fixed by the Board of Governors of the Federal Reserve System."

One of these was made by a Committee on Bank Reserves of the Federal Reserve System which reported its findings and recommendations in 1931. The Committee took the position that it is no longer the primary function of legal reserve requirements to assure or preserve the liquidity of the individual bank—that the maintenance of liquidity is necessarily the responsibility of bank management—and proposed that reserve requirements be uniform for all classes of deposits. It recommended a reserve of 5 per cent against all deposits, plus an additional reserve equal to 50 per cent of daily average debits to deposit accounts.<sup>8</sup> This proposal would impose reserve requirements in accordance with the velocity of the deposits of each bank.

This proposal was criticized by Anderson in an issue of *The Chase Economic Bulletin* in part as follows:

. . . activity of deposits usually reaches its very peak in a panic. When speculation has once collapsed, it becomes definitely dangerous that reserve requirements should be suddenly and sharply raised in a period of panic and liquidation. . . . The "velocity" reserve requirement would not be subject to the use of judgment and might easily be too drastic. It might, on the other hand, be inadequate, through the market's finding ways to reduce turnover . . . it would not accomplish the purpose of restricting the future multiple expansion of bank credit when excess reserves reappear.<sup>9</sup>

Westerfield has called attention to the fact that the flexible reserve plan "ignores, except indirectly, what use is made of the funds," and that "the automatic character of the formula would add another difficulty to the already sufficiently difficult problem of central bank control."<sup>10</sup> On the other hand, the flexible reserve plan based on velocity of deposits is not subject to the errors of judgment that might attend a discretionary reserve plan.

Other automatically flexible reserve plans would apply formulas based on each bank's ratio between earning assets and capital accounts or the ratio between risk assets and capital accounts. As has been said, no one of these plans has been adopted.

<sup>8</sup> Report of the Committee on Bank Reserves of the Federal Reserve System: Washington, D.C., 1931, pp. 5-6.

<sup>9</sup> Anderson, Benjamin M., "Proposed Banking Legislation," *The Chase Economic Bulletin*, April 25, 1932, pp. 31 and 35.

<sup>10</sup> Westerfield, Ray B., *Money, Credit and Banking*, New York: The Ronald Press, 1938, p. 704.



**Discretionary reserve requirements.** If it is recognized that reserve balances do not provide adequate assurance of the banks' liquidity and that the purpose of reserve requirements is to impose restraints on bank credit expansion, it would appear logical that discretionary powers concerning reserve requirements should be placed in the hands of the authorities who possess other powers that affect bank reserves. The open market operations of the Federal Reserve System affect bank reserves, as do most of their other activities. In the absence of discretionary powers concerning legal reserves of member banks, these other powers presumably would be used to manipulate, in the interest of economic stability, the level of the banks' reserve balances. Thus, providing some measure of discretion in the matter of reserve requirements would permit the Board of Governors to use that power, including the determination of the banks' legal reserves, which is most appropriate to its task at the time it decides that action for the good of the economy needs to be taken.

In a later chapter, explanations of the most appropriate uses of the different instruments of credit control in the hands of the Federal Reserve System will be made. It will be shown that reserve requirements as an instrument of credit control might most effectively be used to offset gold movements to and from the country, and currency movements to and from circulation. The argument that the bank credit expansion potential should not rise and fall with these movements is developed in this later chapter. If the discretionary reserve requirement power of the Board of Governors is used in a manner most appropriate to the nature of that power, it can be an instrument that frees the member banks and others from blind forces, rather than an instrument that binds them to arbitrary, centralized authority.

In the light of this discussion of the most appropriate uses of discretionary power over legal reserve requirements, it is clear that the proposals of automatically flexible reserve requirements are deficient. It is doubtful that any formula—and any formula can be extremely arbitrary—will fit the needs of each new situation that develops. Although discretionary power in this matter exposes the banking system to errors of judgment, a formula that is not fool-proof would expose the banking system to strains that might prove unbearable.

These considerations and others were persuasive in leading Congress to reach the decision that the Board of Governors should be given the limited discretionary powers over legal reserve requirements of member banks that have been mentioned earlier. As has also been mentioned, the use of these powers as an instrument of credit control will be discussed in a later chapter bearing the title, "Instruments of Credit Control."

## LIQUIDITY AND SHIFTABLEITY OF BANK ASSETS

The liquid position of banks. No one can doubt that the banking system of the United States at the present time is in a satisfactory state as far as the liquidity of its assets is concerned. It is also evident that its liquid position is attributable to the shiftability of its assets to the Federal Reserve banks. It is doubtful that the banks would have subscribed to government securities in such large

TABLE 27  
LIQUID ASSETS OF MEMBER BANKS  
DECEMBER 31, 1946 \*  
(In thousands of dollars)

Total deposits		118,169,901
Reserve balances	16,014,569	
Cash in vault	1,575,556	
Balances with other domestic banks	5,900,492	
Cash items in process of collection	6,004,935	
Loans to brokers and dealers in securities	1,505,534	
Other loans for purchasing and carrying securities	1,466,942	
Loans to banks	79,473	
U.S. Government securities maturing in 5 years or less	28,475,854	
Total		61,023,355

\* Source: *Member Bank Call Report*, Number 104, Condition of Member Banks, December 31, 1946.

measure, as is indicated in Table 27, in the absence of the assurance given them by the Federal Reserve System that the Reserve banks would support the market for these securities. Then, too, in the absence of the support given the market for government securities by the Reserve banks, it is doubtful that these government securities could have stood the two tests for secondary reserves, liquidity and marketability. In this connection, it will be remembered that after

World War I when banks and individual holders dumped government securities on the open market, the prices of these securities declined precipitously. In fact, government securities probably would never have been issued in such large numbers during World War II had we had no central banking system. Instead, the government might have issued irredeemable government notes to finance its extensive operations. Thus Federal Reserve bank operations occupied a key position in the financing of the recent war.

Table 27 is not a complete one showing the liquid position of the member banks. Open market paper is not listed in this table because bank holdings of this form of asset are included in commercial loans and are not listed separately. Then, too, the division of government securities into the two classes, those under five-year maturities and the longer ones, is purely arbitrary. Perhaps some of the longer ones are very nearly as liquid as some of the shorter ones, as far as their salability with little or no loss is concerned. A further consideration is that the Federal Reserve banks possess the authority to accept for rediscount, not only short-term commercial paper, but any satisfactory asset. This power or privilege, which was not within their statutory powers in the depression years following the boom of 1929, gives some assurance that customers' paper need not in future depression periods be liquidated at such great losses as was the case in past years of depression. Still another consideration is that the presence of the Federal Deposit Insurance Corporation gives additional assurance that forced liquidation of bank assets shall not be caused by widespread runs on banks by depositors who have fears concerning the safety of their deposits. Thus a number of institutional factors have relevance to the liquidity of bank assets.

**Natural liquidity.** The traditional view of commercial banking holds that short-term commercial loans are liquid, and that long-term loans for fixed capital investment purposes are not to be so classified. It is assumed that commercial loans are almost certain to be paid at maturity because the use to which the proceeds of the loan are applied creates the means of repayment. This assumption is not always valid in the case of customers' loans because they are renewed about as often as not. In fact, most bankers frequently grant renewals to their customers when they ask for an extension of time, and adjust their other assets, if necessary, to this situation. The cus-

customer of a bank ordinarily establishes a line of credit which he asserts he is entitled to obtain. If one bank fails to grant such accommodation, the customer is likely to seek and obtain it at another bank.

An analysis of the loans and discounts of many banks at the present time will likely reveal other factors which throw some doubt upon the complete validity of the assumption that commercial loans automatically provide the means of their repayment within a comparatively short length of time. We refer to the tendency to grant so-called commercial loans for longer maturities. Sometimes these loans have been obtained for the purpose of retiring outstanding corporation securities, rather than to supply additional working capital. They are not, of course, true commercial loans, but the point at issue is: What loans are truly commercial? We merely call attention to the tendency toward the investment element in loans that are still classified as commercial loans.

Many loans for consumption purposes are also classified with commercial loans. If loans with these characteristics, as well as those with investment characteristics, are excluded from this classification, a severe contraction in the operations of our commercial banks would follow any successful attempt to confine them to commercial operations.

Experience in the practical operation of their business taught bankers not to rely upon commercial loans to customers as a secondary reserve to aid them in crises, and they have fallen back upon various types of open market paper instead. Open market paper, in turn, has not proved to be entirely satisfactory as a source of funds for a large number of banks in periods of crisis. The individual bank, in liquidating this open market paper, merely shifts or attempts to shift the burden to some other banks, so that the banking system as a whole obtains no relief from distress in this manner. Even call loans which appear to be highly liquid to the individual bank are not readily convertible into cash in a crisis. In other words, they are highly liquid only so long as any large number of holders do not attempt to liquidate them at the same time. Bonds, too, are far from being perfect as secondary reserves. From 1931 to 1933 the bond market was demoralized because numerous holders attempted simultaneously to convert their bonds into cash.

For reasons such as those just outlined, and perhaps for other reasons as well, Moulton has contended that

. . . ability to pass through a crisis without suspension of specie payments and widespread credit disruption does not rest upon the payment of maturing loans. It depends rather upon the maintenance of central reserve reservoirs from which distressed banks may obtain the funds required to meet the demands and needs of customers. . . . Since the establishment of the Federal Reserve System the problem of obtaining cash for seasonal or emergency requirements has been simplified by making it possible for the member banks to shift assets or to borrow from the Federal Reserve banks. The types of assets that are now liquid from the standpoint of individual banks are simply those which are legally shiftable to Federal Reserve banks. *Liquidity has thus become a matter of legal definition.*<sup>11</sup> (Italics not in original.)

Natural liquidity versus conventional liquidity. B. M. Anderson, who at the time was economist for the Chase National Bank, when testifying at the Senate hearings on the Banking Act of 1935, referred to commercial paper and government securities as possessing "natural" liquidity and said that the proposed Act would substitute a kind of "conventional" liquidity or a liquidity based on law.

The controversy precipitated by the Banking Act of 1935 brought the issues concerning the proper concept of liquidity in banking practice out of the academic atmosphere into the realm of public policy. Perhaps it is more accurate to say that these issues became once again a matter of public policy since similar, although not identical, issues were involved in the controversies which led to the Banking Act of 1844 in England and to the Federal Reserve Act of the United States in 1913. A recital of specific provisions of these acts is not necessary here; it is sufficient to say that it became traditional in British and American banking theory that bank credit should serve only the temporary or seasonal needs of business and should not be used to serve the long-term capital or investment needs of industry.

This concept of natural liquidity was challenged by Moulton as early as 1918 when prevailing thought doubtless assumed that liquidity and shiftableity were far from being identical concepts.<sup>12</sup>

<sup>11</sup> Moulton, Harold G., *Financial Organization and the Economic System*, New York: McGraw-Hill Book Co., 1938, pp. 319-320.

<sup>12</sup> Moulton, Harold G., "Commercial Banking and Capital Formation," Part II, *Journal of Political Economy*, Vol. XXVI, 1918, pp. 638-663.

Later Mitchell contended that certain noncommercial loans and investment paper held by banks had become liquid paper by reason of the development of better marketing facilities.<sup>13</sup> ..

The proponents of natural liquidity seemed, however, to hold the upper hand until very recently, judging by the professed policies of the Federal Reserve Board and by the tone of the Banking Act of 1933. The experiences growing out of the crash of the stock market in 1929 explain in large part the willingness to accept the theory underlying this Act of Congress. Senator Glass, one of the authors of the original Federal Reserve Act, who was influential in framing the Banking Act of 1933, was successful in incorporating provisions which would prevent banks from engaging in many investment banking activities. As previously explained, this act forbade the member banks to handle the so-called "brokers' loans for the account of others." It forced them to abandon their investment affiliates which were engaged in the underwriting and marketing of investment securities, and forbade officers and directors of investment banking institutions to serve as officers and directors of member banks, except with the permission of the Federal Reserve Board. A further provision compelled private banks, such as J. P. Morgan and Company, to become either commercial banking or investment banking institutions.

Although the Banking Act of 1933 was not chiefly concerned with imposing positive regulations upon the activities of member banks, its underlying theory was consistent with the conceptions of banking which were held by the framers of the Federal Reserve Act. Between 1933 and 1935 a different theory gained the upper hand. In the hearings on the Banking Act of 1935 held before Congressional committees, Marriner S. Eccles said repeatedly that liquidity of bank assets in periods of financial stress depended upon the willingness of the Federal Reserve banks to exchange them for currency or credit. Such exchanges, according to Mr. Eccles, should not be limited to short-term commercial loans, but should be extended to member banks on notes which are secured to the satisfaction of a Federal Reserve bank.

A group of economists, organized as the Economists' National

<sup>13</sup> Mitchell, Waldo, *The Uses of Bank Funds*. Chicago: The University of Chicago Press, 1925.

Committee on Monetary Policy, opposed the provisions of the bill which, when passed, became known as the Banking Act of 1935. They feared that the bill under consideration would convert "what should be a commercial banking system into an illiquid noncommercial system."<sup>14</sup> However, Professor Sprague favored the change which would allow the Federal Reserve banks to rediscount any sound asset. This view, which recognized that "it must be through management that you determine what the wise limit of advances to a particular member bank may be,"<sup>15</sup> finally prevailed and was adopted by the Board of Governors.

Morton, in reviewing the opinions offered in the *Hearings*, concludes that "it now appears that the commercial banking objective has been abandoned"; that "liquidity has become an institutional matter." He argues that "the self-liquidity theory of commercial banking was neither a correct theory of actual bank operation nor a statement of an ideal practice which would have worked if it had been tried."<sup>16</sup>

Henry Parker Willis objected vehemently to the growing tendency to regard shiftability and liquidity as synonymous. He said in 1936:

During the past thirteen years there has been an amazing movement toward the abolition of convertibility in banking generally. In fact, the ill-advised banker of today, whether in or out of the central bank, is in the habit of scoffing at the desirability of self-conversion, regarding it as a mere piece of academic scholasticism. . . . This unwillingness to apply essential restraints in banking . . . with assets more and more tied up in long-term loans, such as real estate mortgages, and less and less in funds available for immediate protection, is the gravest financial danger of the time, the challenge to central banking.<sup>17</sup>

His chief argument is an appeal to experience:

. . . during the depression following the panic of 1929, banks have lost relatively little through the "freezing" of their bona-fide commercial paper, while they have suffered heavily through their inability to dispose of their long-term capital obligations or from deterioration of such obligations when sold at a sacrifice. In a word, recent experience is positively

<sup>14</sup> See House *Hearings* on Banking Act of 1935, p. 761.

<sup>15</sup> *Ibid.*, p. 762.

<sup>16</sup> Morton, Walter A., "Liquidity and Solvency," *American Economic Review*, Vol. XXIX, June 1939, p. 276.

<sup>17</sup> Willis, H. P., *The Theory and Practice of Central Banking*. New York: Harper and Brothers, 1936, pp. 52-53.

against the acceptance of the doctrine of shiftability in place of that of liquidity as a canon of banking soundness.<sup>18</sup>

The incidence of general liquidation. The meaning of the term "liquidity" when applied to bank assets must be found in aggregative considerations. The condition of the whole banking system or the whole economy must be considered if the liquidity of bank assets is adequately to be analyzed. Under certain favorable conditions, a given type of bank asset may readily be converted into cash by any one bank with little or no loss. If, however, many banks are trying to sell this type of asset in the open market at the same time it may be highly illiquid. A sale of an asset by one bank causes a withdrawal of deposits from another bank, the result being no gain in reserves or cash balances to the banking system. The liquid quality of the assets of any one bank, therefore, consists of the degree of shiftability of those assets to other banks. If these other banks cannot withstand the withdrawals of deposits without a corresponding liquidation of their assets, a crisis may develop, unless bank assets can be shifted to the Federal Reserve banks in exchange for new money. Upon the Reserve banks falls the incidence of general liquidation.

The shifting of assets by one bank to the open market in which a bank is the purchaser, results in an exchange of earning assets for reserves in the case of the one bank and an exchange of reserves for earning assets in the case of the other bank. In case an individual is the purchaser, the deposits and the reserve balance of the purchaser's bank decline, while the reserve balance of the seller increases as its earning assets decline. In both situations, a shifting of the banks' reserve balances takes place and the banking system gains no additional reserve balances, as would be the case if a Federal Reserve bank had been the purchaser at any stage in these proceedings.

Within broad limits, the Federal Reserve banks are able to convert bank assets into reserves or currency. To the extent that they do so, liquidity is tantamount to shiftability,<sup>19</sup> that is, shiftability to the Reserve banks.

It may be assumed that general agreement can be accorded the

<sup>18</sup> *Ibid.*, p. 164.

<sup>19</sup> See Moulton, *op. cit.*, p. 318.



proposition that bank credit expansion should not be allowed to create a great redundancy in the money supply. The corollary of inflated bank deposits, which may be the most important form of the greater money supply, is an increase in bank assets, while a drastic deflation of either bank deposits or bank assets causes a drastic deflation in the other. If, in order that the burden of a deflation should be lessened, the Reserve banks are expected to convert bank assets into reserves or currency, it is altogether logical that the Reserve banks should be permitted to curb the preceding inflation. In other words, the Federal Reserve banks should not aid the process of the monetization of bank credit in a period of inflation and also monetize in a period of deflation the bank assets that were partially responsible for the previous inflation.

We may conclude that the liquidity of bank assets is not adequately resolved in terms of short-term versus long-term bank assets; that the incidence of general liquidation in a crisis falls on the Federal Reserve banks; and that the maintenance of liquidity of bank assets must be resolved in terms of monetary policy that prevents the creation of a redundant money supply when inflation threatens the economy and that permits the conversion of bank assets into reserves or currency when deflation threatens the economy.

### STUDY QUESTIONS

1. What two ideas underlie the concept that bank reserves are something available for use to meet the claims of depositors?
2. "A bank which receives a deposit of currency or checks can invest 80 per cent of that deposit and send the remainder to the Federal Reserve Bank to satisfy its 20 per cent reserve requirement." Do you agree? Explain.
3. Suppose a bank's reserve balance equals its required reserves, which are 20 per cent of its demand deposits, and that subsequently a depositor writes a check for \$1,000 in favor of a depositor of another bank. To what extent is the bank's reserve account available to meet this claim?
4. Some students who were asked the question, "How did banks during the war years obtain additional reserve balances which were required against greater deposit liabilities?" gave the following answers: Comment on each answer, stating whether it is true or false.
  - a. "Each dollar of new deposits increased reserves by the same amount and with reserves at 20 per cent, 80 per cent of these

new deposits represented excess reserves. With increased reserve balances, banks were able to buy government securities and to meet the greater demands for circulating currency."

- b. "By buying an amount of government securities that was less than the increase in deposits."
  - c. "Required reserves were less than the increase in deposits, hence excess reserves were available."
  - d. "By selling some government securities to the Reserve banks and taking the proceeds in the form of credits to their reserve accounts, thereby putting the banks in a position to buy more securities from the government or from the public, thereby creating more deposits against which greater reserves were required, necessitating further sales of securities to the Reserve banks."
5. What difference does it make whether a 25 per cent gold reserve is required to be held against the deposits of the commercial banks or against the deposit liabilities of the Federal Reserve banks?
  6. "*Liquidity* has more significance when applied to a bank's secondary reserve than to a bank's required reserve balances." Do you agree? Explain.
  7. What considerations influence a banker's decisions concerning the amount of vault cash a bank might hold?
  8. For what purposes are interbank deposits maintained?
  9. What was the chief purpose of reserve requirements in the early period of the banking history of the United States?
  10. "The National Bank Act established a system of redeposited reserves." Explain. Do we have a system of redeposited reserves today? Explain.
  11. Assume total deposits of all banks to be \$160 billion and that each bank is required to keep 20 per cent gold reserves in its own vault. Next assume that each bank keeps a reserve account of 20 per cent with a Reserve bank instead of a gold reserve in its own vault and that the Reserve bank is required to maintain a 25 per cent gold reserve. Ignoring the use of gold to support the circulating currency, compute the amount of gold needed, under each assumption, to support the stated amount of deposits.
  12. Why is it difficult to identify the assets of a bank that fit the definition of *secondary reserves*?
  13. "In the absence of reserve requirements, banks would find it necessary to keep both primary and secondary reserves." Do you agree? Explain.
  14. "In the absence of a central bank, or other reserve banks, the total amount of reserves kept by banks in their own vaults would probably be greater than the amount required to be maintained under a central banking system." Do you agree? Explain.
  15. "If a bank has deposits of \$1 million, it is required to maintain a

reserve balance with a Reserve bank equal to or in excess of \$200,000. The Reserve bank is required to keep a reserve of 25 per cent against its deposit liabilities. The Reserve bank, therefore, has \$150,000 of the member bank's funds which it may invest in earning assets." Do you agree? Explain.

16. Suppose the member banks of the Federal Reserve System were required to keep their reserves in their own vaults in form of Federal Reserve notes and that no reserve balances were kept at the Federal Reserve banks. Would the Federal Reserve banks then possess any power to make advances to member banks? Explain.
17. "When the federal government engages in deficit financing, the banks gain reserves." Do you agree? Explain.
18. "The greater member bank deposits with the Federal Reserve banks the greater is the lending power of the Reserve banks." Do you agree? Explain.
19. Compute and explain the effect of the following on the excess gold certificate holdings of the Reserve banks over the required amount:
  - a. an increase of \$1 billion of Federal Reserve notes outstanding.
  - b. an increase of \$1 billion in member bank deposits.
  - c. a decrease of \$1 billion in gold stock.
20. What theory or concept of bank reserves is implied in fixed reserve requirements?
21. Point out inequitable or illogical elements in the present reserve requirement system.
22. Differentiate *discretionary* and *automatic* reserve requirements.
23. "Although a system of automatic reserve requirements might remove some objections to fixed requirements, reserves might still be unavailable when they are most needed." Do you agree? Explain.
24. "The case for automatic reserve requirements is strengthened now that banks can discount, pledge, or sell any satisfactory asset to the Federal Reserve banks." Do you agree? Explain.
25. "Ability to pass through a crisis does not depend on the payment of maturing loans, not even the 'self-liquidating' commercial loans." Do you agree? Explain.
26. "If a bank should encounter a crisis situation, it would be wise to take as the first step the liquidation of its weakest assets, not its commercial loans, especially in the earliest phase of a depression period." Do you agree? Explain.
27. "Liquidity is tantamount to shiftability." Explain.
28. If the solution to our monetary and banking problem is to reestablish as the guiding principle the commercial loan theory of bank credit, what changes do you think must be made in our economic system?
29. "Upon the Federal Reserve banks falls the incident of general liquidation." Explain.

# CHAPTER

## 13

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### BANKS CLEAR CHECKS AND ISSUE STATEMENTS

**Introduction.** Description and discussion of the mechanics of check collection and clearing might appropriately be undertaken early in an exposition on the banking process, since the clearing of checks is essential to the development of a monetary and banking system wherein checks provide the instrument by which most payments are made. The treatment of this subject has, however, been deferred to the present juncture in this book because the significance of the clearing process can best be seen in relation to bank credit expansion. The processes whereby bank credit might expand, namely, through the expansion of loans and investments, has, therefore, preceded the discussion of the mechanics of the clearing of checks which, in turn, precedes a discussion of the limits of bank credit expansion. In the following chapter it will be seen that an individual bank's ability to expand credit is limited by the degree of credit expansion of the banking system. Why is this true? The answer is found in the clearing process, for it ties the individual bank to the banking system.

The banking system operates, as does our whole economic order, on the presumption that claims against one unit of the system are largely offset by claims against others. An exact matching of claims, however, is impossible for each day or other period of time. This being the case, each bank must be prepared to meet an adverse clearing balance. The term "adverse clearing balance" refers to an

excess of items presented against a bank over the dollar volume of items it presents for collection, while the term "favorable clearing balance" is used to describe the opposite outcome of check-clearance operations.

Two types of factors determine the degree of a bank's favorable or unfavorable clearing balances. The one relates to its position in the community in which it is located. One bank through persistent adverse clearing balances might lose deposits to another and suffer a corresponding loss in earning assets. In other words, the persistent adverse clearing balances pull down the size of the one bank, while the other bank in the same community enjoys a growth in deposits and assets at the expense of the former.

The other factor that determines the degree of a bank's favorable or unfavorable clearing balances relates to the extent to which it has engaged in bank credit expansion or contraction, compared with the extent of the credit expansion and contraction of the whole banking system. If the individual bank expands credit at a rate that is faster and greater than the rate of credit expansion of the banking system, it is likely to encounter adverse clearing balances, while a rate of credit expansion that is less than that of the banking system will produce favorable clearing balances. In a period of general contraction, an individual bank is likely to encounter adverse clearing balances if it fails to contract credit at approximately the same rate as that of the banking system, while a rate of credit contraction that is greater than that of the banking system will produce favorable clearing balances for the individual bank. Thus clearing balances, whether favorable or adverse, reflect the extent to which the individual bank is attuned to the credit developments of the banking system.

### RATE OF DEPOSIT TURNOVER

Bank deposits, as well as bank notes and other currency, have a rate of turnover or velocity that varies from season to season and year to year. In other words, a given volume of bank deposits may furnish the medium by which a larger or smaller dollar volume of business transactions is consummated, depending on the rapidity with which checks are debited to individual accounts. If a given

volume of deposits, such as the average daily volume for 1947, had been utilized at a higher rate of turnover than was the case, that volume of deposits could have sustained a greater rate of business activity. Hence, the velocity of deposits, as well as the volume of deposits, is a significant element in the money supply of an economy.

**TABLE 28**  
**BANK DEBITS AND DEPOSIT TURNOVER**  
(Debits in millions of dollars)

Year and month	Debits to total deposit accounts except interbank accounts				Annual rate of turnover of total deposits except interbank	
	Total, all reporting centers	New York City	140 other centers	Other reporting centers	New York City	333 other reporting centers
1939	423,932	171,382	218,298	34,252		
1940	445,863	171,582	236,952	37,329		
1941	537,343	197,724	293,925	45,694		
1942—old series	607,071	210,961	342,430	53,679		
1942—new series	641,778	226,865	347,837	67,074	16.1	13.1
1943	792,937	296,368	419,413	77,155	16.5	11.7
1944	891,910	345,585	462,354	83,970	17.1	10.8
1945	974,102	404,543	479,760	89,799	18.3	9.7
1946—old series	1,050,021	417,475	527,336	105,210	19.0	10.0
1946—new series						
1947	1,125,074	405,929	599,639	119,506	21.0	12.0
1947—January	93,488	34,305	49,140	10,043	20.6	11.6
February	81,567	29,745	43,199	8,622	20.4	11.6
March	93,314	33,547	49,955	9,812	20.4	11.9
April	87,771	31,391	46,904	9,475	19.2	11.3
May	87,840	30,895	47,464	9,482	19.0	11.3
June	94,446	35,632	49,265	9,548	22.7	12.1
July	93,733	34,779	49,178	9,776	21.2	11.5
December	118,382	46,295	60,295	11,862	27.2	13.5

Source: *Federal Reserve Bulletin*, September 1947, p. 1130, and *Federal Reserve Bulletin*, April 1948, p. 416.

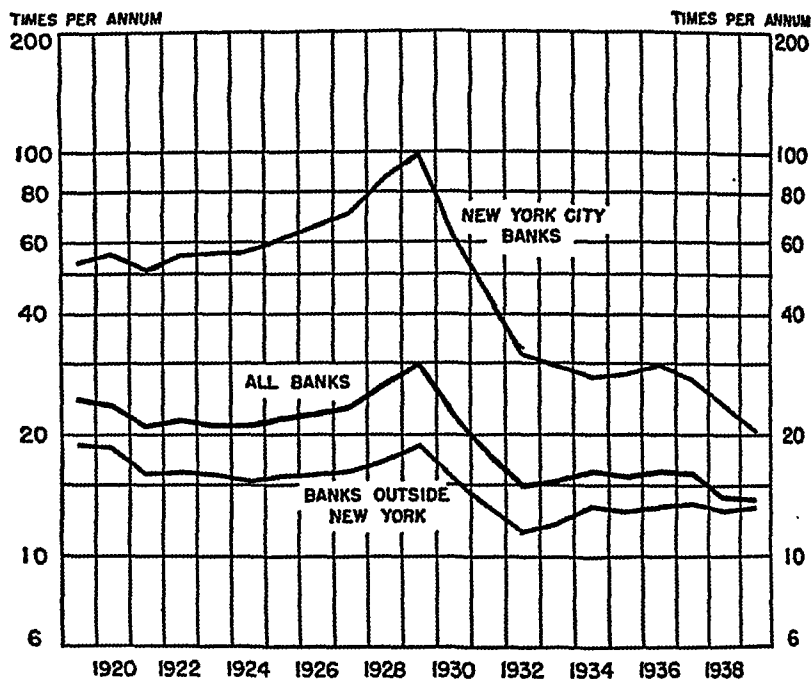
Since 1942, the Board of Governors of the Federal Reserve System has compiled data from reports of clearing associations showing debits to individual accounts in New York City and 333 other reporting centers. The volume of debits by banks in each of these

cities is available in periodic releases of the Board of Governors. They make available a valuable aid in studies of business activity in these centers. One is enabled by the use of these figures to compare the rate of change in debits to deposit accounts in different cities. For example, one might compute the rate of increase in debits to deposit accounts for the banks of Cincinnati and compare

Chart 10

## RATE OF TURNOVER OF DEPOSITS AT COMMERCIAL BANKS

ANNUAL AVERAGES



Source: *Federal Reserve Bulletin*, January, 1940, p. 7.

it with the rate of increase for Cleveland banks, or with the rate of increase for all banks in the 334 reporting centers. A smaller rate of increase in one of these cities than in others would likely reflect a lower rate of increase in business activity. It is possible, however, that for a particular city a lower volume of debits to deposit accounts will reflect only a decline in financial circulation rather than a decline in nonfinancial business activity. In order to clarify this statement, let us assume that in New York City the volume of trading in stocks and bonds has fallen. This development might result in a

considerable decline in debits to deposit accounts, while the department store sales, construction contracts, and other indexes of business activity show no corresponding change. Hence, one would not be satisfied in measuring changes in the volume of business activity solely by reference to an index of debits to deposit accounts.

Table 28 reveals debits to deposit accounts in 334 reporting centers since 1939 and the annual rate of turnover of total deposits except interbank deposits since 1942. The rate of turnover of deposits is measured by the ratio of check payments to average deposits. This ratio has declined since the 1920's, as is revealed by Chart 10. In New York City, the rate of turnover of deposits reached one hundred in 1929, reflecting the great activity in the stock market of that year. The subsequent decline in activity in trading in securities and the imposition of higher margin requirements reduced the turnover of deposits in New York City banks to about one-fifth that of 1929. It will also be observed that the rate of turnover of deposits of banks outside New York has declined since 1929. Thus bank deposits were utilized more intensively in the decade of the 1920's than in the following two decades.

## CLEARING-HOUSE ASSOCIATIONS

**Local clearing houses.** A clearing-house association is an organization of the banks of a community to facilitate interbank relations and to promote the mutual interests of the members. The most common of these interbank relations is the collection and payment of checks payable by the banks of the community. Other functions designed to promote the mutual interests of their members have evolved during the long history of clearing-house associations in countries with well-developed banking systems.

The origin of the London Clearing House is an interesting item in banking history. It was established in 1775 and appears to have been an outgrowth of the practice by bank messengers of meeting in a coffeehouse to exchange the packets of checks entrusted to them for delivery to other banks. The central meeting place enabled the messengers to accomplish their tasks without overlapping trips for the whole group of messengers. Prior to the adoption of the plan of meeting at a central place, each messenger was forced to make the



rounds of the other banks to settle balances between his bank and each of the others. The banks of New York City adopted this plan of centralized clearings in 1853. Today there are several hundred clearing houses in the United States, some of which function only within the cities in which they are established. Others are made up of the banks of a region, and comprise the banks of several smaller cities, towns, and villages, each of which may be too small to justify the expense of operating a clearing house of its own. The banks in the smaller communities which belong to a clearing association of a region, such as a county, may also clear many checks through their correspondent bank in a nearby financial center, for which service the correspondent banks may receive a fee.

A simple explanation of the relationship between an individual bank and the clearing-house association of which it is a member follows. Each day, Bank 1 receives from its customers a large number of checks drawn against other banks of the association. The amounts of these checks are credited to the accounts of the customers who presented them, or cash is paid out for them. Prior to the time these checks are presented at the clearing house, they are assembled in bundles, each bundle representing those checks drawn against Bank 2, Bank 3, etc. The total of the checks in each bundle is entered on a credit slip. By simple addition, the total claims against the other members of the association are calculated. Each member does likewise. At the hour of clearing, the delivery clerks present these bundles of checks to the settling clerks, who may be stationed behind booths on the floor of the clearing house. Within a few minutes, the settling clerk has received the checks drawn against the bank which he represents from each of the other member banks of the association. The total of the checks in each bundle which he receives is entered on a debit slip. After the totals on the credit and debit slips are verified, the clearing house reports to the Federal Reserve bank or Federal Reserve branch bank the results of the day's operations. Assuming that each member keeps an account with the Federal Reserve bank, this account is debited or credited with the difference in the totals of the credit and debit slips. If, for example, the total on the credit slip of Bank 1 is \$1,000,000 and the total on its debit slip is \$900,000 the account of Bank 1 at the Federal Reserve Bank is credited in the amount of \$100,000. In this manner,

the need for an interchange of cash between the members of the association is obviated.

In order that the reader may better visualize the operations just described, copies of some of the forms used by a clearing house are reproduced as Figures 8, 9, and 10:

The total of the checks which Bank 39 of the Cincinnati Clearing House presents against Bank 1 is entered on a form similar to Figure 8.

Each of the members of the Cincinnati Clearing House fills out these slips giving the total of the checks drawn against the other members. Bank 39 enters the totals on a credit slip, shown as Figure 9. The checks which are presented against Bank 39 are entered on a debit slip, shown as Figure 10.

To enable the Cincinnati Clearing House to compute figures of bank debits in its area, Bank 39 supplied the data in the form shown as Figure 11.

In order to give the reader a somewhat more accurate picture of the operations of any clearing-house association, it must be said that not all checks which enter into the totals on the records of the clearing house are actually handled there. In order to relieve some of the congestion of work in the banks of the larger financial centers, a procedure such as the following is adopted: After the hour of clearing, a bank continues to receive checks payable by other banks from its customers. Instead of waiting until the next morning to present these checks to the other banks, Bank 39, for example, sends to Bank 1, at a predetermined time, the accumulation of checks payable by Bank 1. It receives from Bank 1 the checks payable by

Bank 39 during the same period of time. Each bank can then put its clerks to work posting these checks to individual accounts immediately, instead of waiting to receive all of the checks payable by itself when the messengers return from the clearing house after the day's operations there. The checks traded in this manner during the day are included in the clearing totals for the day. The gain in efficiency attributable to this procedure is obvious.

[illegible]

**Fig. 9 CREDIT SLIP OF CLEARING  
HOUSE**

[illegible]

**Fig. 10 DEBIT SLIP OF CLEARING HOUSE**

It has been said that the account of each member of a clearing house at the Federal Reserve bank of its district is credited or debited with the amount of its favorable or unfavorable clearing balance for the day. Prior to the establishment of the Federal Reserve

Report for  
month of \_\_\_\_\_, 194\_\_

(Bank and Location)

### DEBITS TO DEPOSIT ACCOUNTS EXCEPT INTERBANK ACCOUNTS

Figures reported below should represent total debits or charges to all depositors' demand and time accounts, both government and private, except accounts of other banks and certified and officers' check accounts.

(If the reporting bank does not find it convenient to enter daily debits figures, only the monthly total need be shown. Any very unusual fluctuation of the bank's figures should be explained on the reverse side of this form.)

(Debit cents)							
Day of month	Amount			Day of month	Amount		
	(Millions)	(Thousands)	(Hundreds)		(Millions)	(Thousands)	(Hundreds)
1	\$			17	\$		
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16							
Total debits for month.....				\$			
Demand and time deposits at end of month, including certified and officers' checks outstanding, but excluding deposits to the credit of banks.....				\$			

Signature

This report should be transmitted to the Federal Reserve Bank immediately after the end of the month, through the clearing house or other reporting agency (if any)

②

Fig. 11 DEBIT TO DEPOSIT ACCOUNTS EXCEPT INTERBANK ACCOUNTS

System, the most common method of paying these clearing balances was through the use of clearing-house certificates. Each member of a clearing house would make a deposit with the clearing house and receive in exchange clearing-house certificates. If Bank 1, for example, had a clearing-house deficit of \$100,000 as the result of one day's clearing, it would pay the manager of the clearing house that amount of clearing-house certificates. The manager of the clearing house would pay over to Bank 2 an amount of clearing-house certificates equal to its favorable balance. This system lessened the risk of transferring cash from one bank to another, while the present system obviates the use of clearing-house certificates. The present system consists simply of bookkeeping entries on the books of the Federal Reserve Bank, assuming again that the clearing banks are members of the Federal Reserve System or are nonmember banks that maintain accounts at Federal Reserve banks for the purpose of settling clearing balances.

The present system of settling clearing-house balances extends to banks in cities where no Federal Reserve bank or Federal Reserve branch bank exists. The manager of the clearing house in Dayton, Ohio, for example, telegraphs to the Federal Reserve Bank of Cleveland the amounts which are to be debited or credited to the accounts of the different Dayton banks.

**Clearings and collections under the Federal Reserve System.** One of the notable contributions of the Federal Reserve System to the banking process in the United States is the greater efficiency with which clearings and collections are effected today as compared with the procedure used prior to 1914. Each Federal Reserve bank and its branches is required to function as a check collection agency for all member banks and also for all nonmember banks which agree to remit at par through the Federal Reserve banks. Thus the Federal Reserve banks serve as correspondents for the member banks and many others. The procedure by which they carry out this important service for the benefit of American business in general is described in the following paragraphs. In order properly to appreciate the benefits of the present Federal Reserve collection system it is necessary to state some of the characteristics of the procedures which the present system superseded.

The collection process prior to 1914. After the Civil War, there

grew up in the United States a very complex system of correspondent relationships between banks to collect credit items received in one community and payable in distant communities. The growing willingness of business firms, such as manufacturers and wholesalers in the larger industrial communities to accept payments in the form of personal checks from wholesalers and retailers in small communities gave rise to this collection problem. Two methods of making payments other than by checks drawn against a local bank might have been continued. One method was the shipment of currency; the other was payment by draft on New York or some other financial center. Both of these methods were expensive to the firm or person making the payments. The expense which the first method entailed is obvious. The objection to the second method came chiefly from the drawee banks, since it imposed on them the necessity for keeping large deposit accounts with banks in the financial centers. The forwarding of personal checks seemed to be the most expedient form of making payments. Hence retailers and other business firms favored those wholesalers and manufacturers in the large communities who were willing to accept this means of payment.

The most simple method of making collections of these items would have been to mail the checks directly to the drawee banks for payment at their face value. Many of the drawee banks, however, insisted on exacting an exchange charge on the checks drawn against them. In other words, they would remit less than the face value of the checks payable by them. The amount of the exchange charged varied from  $\frac{1}{10}$  to  $\frac{1}{4}$  of 1 per cent of each \$100. The banks receiving out-of-town checks hesitated to pass on the expense of these exchange charges to their customers since the banks in question were competing with each other in obtaining the business of the customer. A method of avoiding these charges was, therefore, worked out. It consisted of setting up the rather complex correspondent relationships which have been mentioned.

Banks in different cities entered into agreements whereby each was to collect for the others all checks drawn on those correspondent banks. Among the numerous defects of this system of check collection through correspondent banks, two are singled out for comment:

1. The banks receiving checks for collection from their corre-

spondents gave immediate credit to such correspondents although a considerable period of time might elapse before they were actually collected. The banks which received the bulk of these checks held the legal reserve accounts of the banks transmitting them. Hence a portion of the float, that is, checks in process of collection, was included in the legal reserves of many banks.

2. Many banks sent bundles of checks drawn on other banks in widely scattered areas to that reserve city or central reserve city correspondent with which they wished to build up their accounts. The city correspondent bank would then route the checks in such manner as to avoid the exchange charges of the drawee banks. For example, a bank near Cincinnati might have sent a check drawn on another bank near the same city to New York City for collection because it wanted to build up its balance with its New York City correspondent, or it might have wanted to avoid the exchange charge of the drawee bank. The New York City bank would then return it, perhaps through the town of the drawee bank, to Cincinnati. The Cincinnati bank would then collect it from the drawee bank.

This method of check collection was not only extremely inefficient but it increased the size of the float as well and, hence, aggravated the somewhat vicious element involved in the granting of immediate credit by the New York bank on the reserve account of the payee's bank. In other words, defect 1 in this system aggravated defect 2, and vice versa.

In a discussion of the par-collection controversy, the *Federal Reserve Bulletin* gives an illustration of the roundabout routing of checks prior to the establishment of the Federal Reserve System:

The following, although a somewhat exaggerated illustration, is reported as an actual instance of how circuitous routing of checks was resorted to in order to avoid the payment of exchange: A check on a Sag Harbor, New York, bank was deposited in a Hoboken bank. The check was then sent to New York City, a distance of 3 miles, then to Boston—200 miles, then to Tonowanda—405 miles, to Albany—210 miles, to Port Jefferson—105 miles, to Far Rockaway—45 miles, to another bank in New York City—20 miles, to Riverhead—75 miles, to Long Island City—70 miles, and then to Sag Harbor—90 miles, a total distance of 1,223 miles. This process took 10 days. If the present Federal Reserve collection system were used by the bank in Hoboken, this check would have to

go only from Hoboken to New York City and from New York City to Sag Harbor a distance of only 93 miles.<sup>1</sup>

The par-remittance controversy. An amendment to the Federal Reserve Act, adopted on September 7, 1916, authorized each Federal Reserve bank to receive from member banks for collection, checks or drafts payable upon presentation to any bank in its district. By implication, this amendment was generally interpreted as giving the Federal Reserve banks authority to take whatever lawful means were necessary to collect such checks at par. Acting under this authority, the Federal Reserve banks attempted to establish a par-collection system for the country as a whole. Further amendments supported this attempt by declaring that nonmember banks might establish clearing accounts with the Federal Reserve banks and by forbidding drawee banks from imposing exchange charges against the Federal Reserve banks.

Many small banks, especially in the south and the west, objected to this legislation and to the policies of the Federal Reserve banks. They refused to consider checks drawn on them as being presented for payment at their counters when they were sent by mail from the Federal Reserve banks. Some of the Reserve banks then adopted a plan whereby agents, such as some bank or express company, presented the checks in person to the drawee banks. Certain state legislatures came to the rescue of the nonpar banks with legislation which authorized those nonmember banks with state charters to collect exchanges on checks presented by an agent of a Federal Reserve bank. Further attempts to nullify the actions of the Federal Reserve banks in their endeavors to enforce par-collections consisted of suits to test the legality of the practices of those banks.

Among the principal points decided by the cases which tested the legality of the practices and policies of the Federal Reserve banks are the following:

1. Federal Reserve banks are authorized to receive and collect checks drawn upon nonmember banks, as well as member banks, if such checks can be collected at par;
2. Member banks are required by law to remit at par for checks drawn upon themselves and presented to them for payment by Federal Reserve banks;

<sup>1</sup> February 1940, p. 90.



3. If nonmember banks remit at all for checks forwarded to them by Federal Reserve banks they must remit at par;

4. Federal Reserve banks are prohibited by law from paying exchange either on checks which they themselves own or which they are handling as agents for others;

5. A state statute authorizing state banks to charge exchange and to make payment in exchange drafts on their reserve deposits for checks presented to them by or through any Federal Reserve bank or its agent is constitutional;

6. The provision of the Federal Reserve Act which forbids member banks to make exchange charges against Federal Reserve banks is constitutional.<sup>2</sup>

Despite the commendable purpose of the Federal Reserve System to provide a method whereby checks might be presented to drawees as rapidly as possible and with a minimum of expense to industry, commerce, and agriculture, there were on July 31, 1947, 2,053 banks which did not remit at par for checks drawn on them. Most of these nonpar banks are small-town banks located in the following Federal Reserve districts: Boston, none; New York, none; Philadelphia, none; Cleveland, none; Richmond, 225; Atlanta, 619; Chicago, 57; St. Louis, 353; Minneapolis, 674; Kansas City, 11; Dallas, 110, and San Francisco, 4.

At the present time, the Federal Reserve banks do not attempt to compel banks to remit at par, but they do not provide clearing services for nonpar banks and they do not accept checks for collection drawn upon such banks. Therefore, banks on the par list must find means to collect payments on checks drawn upon nonpar banks. This is done through a system of correspondent relationships. To illustrate, a bank in Oxford, Ohio, having received a check drawn on a nonpar bank would send that check to its correspondent bank in New York or Cincinnati which serves also as a correspondent of the nonpar bank. The Cincinnati or New York bank thereupon credits and debits the proper accounts.

In order to encourage establishment of accounts of smaller banks with them, some city banks have absorbed the exchange charges against checks drawn on these smaller nonpar banks. This practice,

<sup>2</sup> *Federal Reserve Bulletin*, February 1940, p. 92. The most important cases were: 262 U. S. 643, 262 U. S. 649, 3 Fed. (2nd) 465, 11 Fed. (2nd) 866, 271 U. S. 685. See also W. E. Spahr, *The Clearing and Collection of Checks*. New York: Bankers Publishing Company, 1926, Chap. VII.

the Board of Governors has notified all member banks, is contrary to the provision of the Federal Reserve Act which prohibits member banks from paying interest on demand deposits "directly or indirectly by any device whatsoever."<sup>3</sup> This interpretation by the Board of Governors has been challenged and is at the present time a controversial matter.

**Intradistrict clearings.** As finally evolved, the check-clearing process under the Federal Reserve System is composed of two parts: (1) intradistrict clearings and (2) interdistrict clearings. The first term refers to the procedure by which checks delivered to the Federal Reserve bank by a payee bank of the district are sent to the drawee bank for collection at par. Under this procedure, a member bank in Dayton, Ohio, which receives a check drawn on an Akron, Ohio, bank sends it to the Federal Reserve Bank of Cleveland for collection. The reserve account of the Dayton bank is credited and that of the Akron bank is debited by the amount of the check. The reserve account of the Dayton bank, however, may not be credited immediately since such credits are entered according to a "deferred availability schedule." This schedule roughly corresponds to the length of time it takes for a check to reach the drawee from the Federal Reserve bank.

**Interdistrict clearings.** When a Federal Reserve bank receives checks drawn upon banks in other districts, it sends them to the other Federal Reserve banks for collection. The accounts of the banks presenting the checks are credited according to a deferred availability schedule, which in the case of interdistrict clearings defers credits to as much as three days. Prior to September 1, 1939, deferment of such credits extended to as much as seven days.

In order to settle balances among the twelve Federal Reserve banks resulting from interdistrict check clearings, a Gold Settlement Fund (later called the Interdistrict Settlement Fund) was established in 1915. Each Federal Reserve bank was required to make a deposit of at least \$1,000,000 with the Fund. Since the reserves of the Federal Reserve banks include the balances with the Interdistrict Settlement Fund, the Reserve banks have kept balances with it that are much greater than the minimum requirement. The greater

<sup>3</sup> *Federal Reserve Bulletin*, June 1945, p. 564.

part of the gold certificate holdings of the Federal Reserve banks is, at the present time, on deposit with the Fund.

Using the private wires of the Federal Reserve System, each of the Federal Reserve banks and their branches reports each business day the volume of checks drawn on banks in other districts. The manager of the Interdistrict Settlement Fund then compiles two lists of figures for each of the Federal Reserve banks, the one representing credit items and the other debit items. The difference between them for each Reserve bank is entered as a credit or a debit to its balance with the Interdistrict Settlement Fund.

Because of the procedures which have been described, no currency, gold, or other money need be shipped to settle balances among the twelve Federal Reserve banks.

*Other functions of the Interdistrict Settlement Fund.* The Federal Reserve System provides facilities for collecting items other than checks. Bankers' acceptances, commercial paper, bond coupons, commercial drafts, etc., are handled for collection by the Federal Reserve banks. Banks that clear through the Federal Reserve System may send such items to the Reserve banks for collection.

The Federal Reserve System also provides facilities for the transfer of funds to all parts of the country. For example, funds may be wired from San Francisco to New York on request of a San Francisco bank that wishes immediately to transfer funds to New York to be employed by the New York correspondent of the San Francisco bank. Treasury transfers also are made through the Fund.

Numerous transactions, such as those that have been mentioned, are settled among banks by credits and debits to their reserve accounts with the Federal Reserve banks, while among the twelve Reserve banks they are settled by entries on the books of the Interdistrict Settlement Fund.

*Other functions of clearing-house associations.* In addition to their chief function of clearing checks, many clearing-house associations perform other useful services for their members. In the performance of these other functions, they act in a manner similar to trade associations. Their general purpose is to raise the plane of banking operations. Among the more important of these special services are the following: (1) publishing financial statistics; (2) encouraging good banking practices and discouraging bad practices among members;

(3) recommending exchange, collection, and service charges; recommending rates of interest on time deposits, etc.

## FINANCIAL STATEMENTS OF BANKS

The chief purposes of a study of bank statements are to reveal the nature of the banking process and to reveal the condition of the individual bank at a given time. Whether the one purpose or the other is the more important depends on the reasons for which the study is undertaken. If a student of banking is interested in obtaining a knowledge of how banks perform their functions in the operation of our economic system, he will find bank statement analysis invaluable and, perhaps, indispensable in gaining such knowledge. This purpose refers to bank statement analysis in general. The other purpose indicates an interest in the probable safety of funds deposited with the bank.

When bank statement analysis covers a period of years, it may have a further purpose, namely, that of indicating the direction of banking and business developments. This purpose is best served by the computation of ratios from the composite statements of a large number of banks over a period of time. For example, one might wish to know the changing importance of the bondholdings of commercial banks, in which case the ratio of the investments of those banks to their total earning assets at each call report for ten years would probably reveal a trend in a certain direction. Specific developments in the business world might likewise be revealed by the same data which reveal trends of banking developments. An example of this may be found in a decline in the commercial loans of banks at the time when excess reserves are high and interest rates are declining. This condition among banks generally would reflect either slow business activity or a change in the methods of financing business and, at the same time, a change in banking trends.

The explanations that follow may be used to serve all the purposes that have been mentioned. They are divided into three parts, namely, (1) the statement of the individual bank, (2) the composite statement of all the member banks of the Federal Reserve System, and (3) the statement of the Federal Reserve banks.

## THE STATEMENT OF THE INDIVIDUAL BANK

Most banks publish periodically in newspapers two financial statements. The one is a simple, condensed version of the balance sheet, the purpose being to inform the public of its financial status at the close of business on a stated date. The other, which is called the "sworn statement," is required to be published three or four times a year by state or federal laws pertaining to banks. This statement carries a *correct attest* by three or more directors of the banks, "sworn to and subscribed" before a notary public.

The sworn statement of The Reserve City Bank is reproduced as Figure 12.

Bank statement ratios. Figure 12 indicates that total deposits of The Reserve City Bank on December 31, 1947 were 17.7 times capital accounts. If, however, United States Government deposits and interbank deposits derived from Figure 12, are subtracted from total deposits to reach an adjusted deposits figure, the ratio between deposits and capital accounts was 17.1 to 1.

A study of the statement also shows United States Government security holdings constituted approximately 70 per cent of earning assets (loans and securities) and that no other securities were held by this bank. Loans and discounts were approximately 30 per cent of earning assets.

Cash and due from banks plus United States Government securities, which assets are most readily available to meet the liabilities of the bank, are about 83 per cent of total deposits. Thus only 17 per cent of the deposits of The Reserve City Bank are supported by assets other than cash and government securities. If these other assets could be liquidated at seventy-five cents on the dollar, this bank could fully meet its deposit liabilities.

THE COMPOSITE STATEMENT OF THE  
MEMBER BANKS

The condition reports which member banks are required to submit periodically contain a more detailed breakdown of the assets and liabilities of banks than do the statements that they publish for the benefit of their customers and the general public. Table 29 shows the condition; on December 31, 1947, of all member banks, central

## REPORT OF CONDITION OF

**THE RESERVE CITY BANK**

CINCINNATI, OHIO.

At the Close of Business December 31, 1947.

A State banking institution organized and operating under the banking laws of this State and a member of the Federal Reserve System. Published in accordance with a call made by the State Banking Authorities and by the Federal Reserve Bank of this District.

**A S S E T S**

Cash, balances with other banks, including reserve balance, and cash items in process of collection.....	\$ 53,915,170.69
United States Government obligations, direct and guaranteed.....	94,363,046.76
Stock of Federal Reserve bank .....	270,000.00
Loans and discounts (including \$2,381.02 overdrafts).....	39,960,600.91
Bank premises owned \$635,680.60, furniture and fixtures \$99,956.42 ....	735,637.02
Other assets: Accrued Earnings \$468,337.23; Prepaid Expense \$87,299.08; U. S. Savings Bonds in process of redemption \$14,462.52 .....	570,098.83
<b>TOTAL ASSETS</b> .....	<b>\$189,814,554.21</b>

**L I A B I L I T I E S**

Demand deposits of individuals, partnerships, and corporations .....	\$118,548,503.96
Time deposits of individuals, partnerships, and corporations .....	37,960,556.60
Deposits of United States Government .....	4,473,495.61
Deposits of States and political subdivisions .....	7,103,669.87
Deposits of banks .....	9,960,801.45
Other deposits (certified and officers' checks, etc.).....	689,915.54
<b>TOTAL DEPOSITS</b> .....	<b>\$178,741,943.23</b>
Other liabilities: Income collected but not earned \$278,381.92; Accrued Interest, Taxes, etc. \$583,470.35; Dividend Payable January 2, 1948 \$75,000 .....	936,852.27
<b>TOTAL LIABILITIES</b> .....	<b>\$179,678,795.50</b>

**C A P I T A L   A C C O U N T S**

*Capital .....	\$ 5,000,000.00
Surplus .....	4,000,000.00
Undivided profits .....	1,135,758.71
<b>TOTAL CAPITAL ACCOUNTS</b> .....	<b>\$ 10,135,758.71</b>

**TOTAL LIABILITIES AND CAPITAL ACCOUNTS** ..... \$189,814,554.21

\*This bank's capital consists of:

Common stock with total par value of .....\$5,000,000.00

**M E M O R A N D A**

Assets pledged or assigned to secure liabilities and for other purposes .....\$ 14,746,378.16

The following items are published pursuant to State Law:

Funds on deposit by Trust Department which are preferential under Section 710-165, General Code .....

Section 710-165, General Code .....\$ 4,313,267.32

Hypothecated or Assigned Deposits under Section 710-180, General Code .....

Section 710-180, General Code .....\$ 1,440,940.32

I, F. GEORGE HEIDACHER, Vice President and Cashier of the above-named bank, hereby certify that the above statement is true to the best of my knowledge and belief.

F. GEORGE HEIDACHER,

CHAS. W. DUPUIS)

Correct Attest: T. M. CONROY; Directors.

STUART B. SUTPHIN]

State of Ohio, ss:

Sworn to and subscribed before me this 6th day of January, 1948.

(SEAL)

FREDRIKS D. BERGER,  
Notary Public.

TABLE 29

## ALL MEMBER BANKS—ASSETS AND LIABILITIES ON DECEMBER 31, 1947, BY CLASS OF BANK

[Amounts in thousands of dollars]

	Central reserve city member banks		Reserve city member banks	Country member banks	All member banks	All national member banks	All State member banks
	New York	Chicago					
<b>ASSETS</b>							
Loans and investments	20,393,170	5,088,193	36,039,981	36,324,397	97,845,741	65,280,201	32,565,540
Loans (including overdrafts)	7,178,991	1,801,180	13,448,577	10,199,237	32,627,985	21,427,815	11,200,170
United States Government direct obligations	11,971,456	2,889,526	20,192,503	22,850,920	57,904,405	38,667,986	19,236,419
Obligations guaranteed by United States Government	470		3,062	6,168	9,700	6,159	3,541
Obligations of States and political subdivisions	637,759	212,519	1,342,382	2,006,435	4,199,095	3,025,162	1,173,933
Other bonds, notes, and debentures	509,509	175,146	963,631	1,178,421	2,826,707	1,997,249	829,458
Corporate stocks (including Federal Reserve Bank stock)	94,985	9,822	89,826	83,216	277,849	155,830	122,019

Source: *Member Bank Call Report*, Number 107, Condition of Member Banks, December 31, 1947.

TABLE 29 (Continued)

ALL MEMBER BANKS—ASSETS AND LIABILITIES ON DECEMBER 31, 1947, BY CLASS OF BANK  
[Amounts in thousands of dollars]

	Central reserve city member banks		Reserve city member banks	Country member banks	All member banks	All national member banks	All State member banks
	New York	Chicago					
ASSETS							
Reserves, cash, and bank balances	7,261,225	1,739,266	13,066,359	10,778,416	32,845,266	22,023,591	10,821,675
Reserve with Federal Reserve Banks	4,638,953	1,069,551	7,095,390	4,992,793	17,796,687	11,670,904	6,125,783
Cash in vault	150,821	30,065	562,332	928,856	1,672,074	1,148,724	523,350
Demand balances with banks in United States (except private banks and American branches of foreign banks)	67,210	173,374	2,109,798	3,885,925	6,236,307	4,731,633	1,504,674
Other balances with banks in United States	2,422	1,540	15,372	14,484	33,318	23,648	10,170
Balances with banks in foreign countries	15,015	1,005	7,132	2,302	25,454	13,543	11,911
Cash items in process of collection	2,386,804	463,731	3,276,335	954,056	7,080,926	4,435,139	2,645,787
Due from own foreign branches	16		4,773		4,789	4,773	16
Bank premises owned and furniture and fixtures	159,255	15,114	299,804	346,026	820,199	531,990	288,209
Other real estate owned	566		6,253	5,420	12,239	8,113	4,126
Investments and other assets indirectly representing bank premises or other real estate	2,896	166	44,397	10,642	58,101	43,970	14,131
Customers' liability on acceptances	82,681	4,455	50,032	4,086	141,254	87,501	53,753
Income accrued but not yet collected	63,476	16,095	101,158	46,657	227,386	141,654	85,732
Other assets	19,154	2,534	46,561	37,248	105,497	59,848	45,649
Total assets	27,982,439	6,865,823	49,659,318	47,552,892	132,060,472	88,181,641	43,878,831

Source: Member Bank Call Report, Number 107, Condition of Member Banks, December 31, 1947.



TABLE 29 (Continued)

## ALL MEMBER BANKS—ASSETS AND LIABILITIES ON DECEMBER 31, 1947, BY CLASS OF BANK

[Amounts in thousands of dollars]

	Central reserve city member banks		Reserve city member banks	Country member banks	All member banks	All national member banks	All State member banks
	New York	Chicago					
<b>LIABILITIES</b>							
<b>Demand deposits</b>	23,759,659	5,489,458	35,022,575	29,866,156	94,137,848	62,710,596	31,427,252
Individuals, partnerships, and corporations	17,645,674	3,853,000	26,002,652	25,202,524	72,703,750	47,994,884	24,708,866
United States Government	266,622	72,053	404,984	432,439	1,176,098	794,718	381,380
States and political subdivisions	289,840	285,267	2,282,463	2,646,784	5,504,054	4,157,164	1,346,890
Banks in United States	3,235,957	1,196,008	5,496,573	1,049,098	10,977,636	7,660,502	3,317,134
Banks in foreign countries	1,216,934	20,581	130,916	7,060	1,365,491	714,665	660,826
Certified and officers' checks, cash letters of credit, and travelers' checks, etc.	1,104,932	62,549	705,087	528,251	2,400,819	1,388,663	1,012,156
<b>Time deposits</b>	1,456,136	912,735	11,444,624	14,576,384	28,389,879	19,312,404	9,077,475
Individuals, partnerships, and corporations	1,417,658	901,885	11,045,296	14,177,070	27,541,999	18,636,707	8,905,202
United States Government	12,471	1,600	44,637	42,486	101,194	83,333	17,861
Postal savings			753	2,611	3,364	2,826	538
States and political subdivisions	14,447	9,250	332,351	337,398	693,446	554,715	138,731
Banks in United States	460		21,587	16,819	38,866	31,773	7,093
Banks in foreign countries	11,100				11,100	3,050	8,050
<b>Total deposits</b>	25,215,795	6,402,193	46,467,199	44,442,540	122,527,727	82,023,000	40,504,727

Source: Member Bank Call Report, Number 107, Condition of Member Banks, December 31, 1947.

TABLE 29 (Concluded)

ALL MEMBER BANKS—ASSETS AND LIABILITIES ON DECEMBER 31, 1947, BY CLASS OF BANK

[Amounts in thousands of dollars]

	Central reserve city member banks		Reserve city member banks,	Country member banks	All member banks	All national member banks	All State member banks
	New York	Chicago					
<b>LIABILITIES</b>							
Due to own foreign branches	221,114		664		221,778	197,156	24,622
Bills payable, rediscounts, and other liabilities for borrowed money	30,210		687	23,068	53,965	45,135	8,830
Acceptances outstanding	96,794	5,003	58,637	4,131	164,565	101,161	63,404
Dividends declared but not yet payable	22,182	1,650	16,186	15,491	55,509	35,644	19,865
Income collected but not yet earned	15,255	3,951	62,573	42,958	124,747	86,671	38,066
Expenses accrued and unpaid	73,061	22,081	125,930	75,429	306,501	203,414	103,087
Other liabilities	49,206	4,490	73,021	14,785	141,502	80,770	60,732
<b>Total liabilities</b>	<b>25,723,617</b>	<b>6,439,368</b>	<b>46,814,897</b>	<b>44,618,402</b>	<b>123,596,284</b>	<b>82,772,951</b>	<b>40,823,333</b>
<b>CAPITAL ACCOUNTS</b>							
Capital	611,972	144,350	957,515	1,016,557	2,630,394	1,775,216	955,178
Surplus	1,106,770	178,650	1,228,327	1,219,783	3,823,530	2,395,185	1,428,845
Undivided profits	381,509	53,814	460,880	513,312	1,409,515	892,383	517,132
Other capital accounts	68,571	49,041	197,699	184,838	500,749	345,906	154,843
<b>Total capital accounts</b>	<b>2,258,822</b>	<b>426,455</b>	<b>2,844,421</b>	<b>2,934,490</b>	<b>8,464,188</b>	<b>5,408,690</b>	<b>3,055,498</b>
<b>Total liabilities and capital accounts</b>	<b>27,982,439</b>	<b>6,865,823</b>	<b>49,659,318</b>	<b>47,552,892</b>	<b>132,060,472</b>	<b>88,181,641</b>	<b>43,878,831</b>

Source: Member Bank Call Report, Number 107, Condition of Member Banks, December 31, 1947.

reserve city member banks, reserve city member banks, and country member banks. From this condition report it is possible to derive certain ratios that cannot be computed by the customer of an individual bank from the typical bank statement which he can obtain from his bank.

One purpose for which this comparison might be made is to determine in what respects the condition of the individual bank is out of line with the composite statement of the group of banks of which it is a member. Of course, there may be very good reasons for the ratio of an individual bank statement being out of line with a ratio derived from the composite statement of a group of banks. It may be a sign of strength or a sign of weakness, on the part of the individual bank, when these two sets of ratios do not coincide.

Another purpose may be served by composite statements of different groups of banks. They make possible a comparison of typical differences between the central reserve city banks, the reserve city banks, and the country banks.

In addition to furnishing the assets and liabilities of all member banks, classified as central reserve city, reserve city, and country banks, the call reports give data on the condition of all member banks of each Federal Reserve district and of each state. Thus the individual banker or bank depositor can compare the condition of his bank with the composite condition of all member banks in any district or state.

A further use of the condition reports of all member banks is that they enable the student of money, credit, and banking phenomena to compare the changes that have taken place over a period of time. These reports, covering all member banks throughout the country, are a more reliable measure of changes than the reports of a single bank or the banks of a certain city, state, or district.

On December 31, 1947, all member banks had total deposit liabilities approximately 14.5 times as great as their total capital accounts. Since capital stock was about one-third their total capital accounts, deposits were approximately 44 times capital stock. Their loans and investments were almost 12 times total capital accounts. Investment holdings were 66.7 per cent of total loans and investments. Holdings of United States Government obligations were 59 per cent of total loans and investments. The total of reserves, cash,

and bank balances was approximately 27 per cent of total deposits. These percentages, or those computed for all reserve city banks, may be compared with those given previously for The Reserve City Bank or with those of any bank chosen for comparative study.

## THE STATEMENT OF THE FEDERAL RESERVE BANKS

The Board of Governors of the Federal Reserve System publishes a weekly statement of condition for each Federal Reserve bank and a combined statement for all Federal Reserve banks. Many daily newspapers carry the statement of condition of the Federal Reserve banks as of the close of business on each Wednesday. The *Federal Reserve Bulletin* also carries these weekly statements and the *Annual Report* of the Board of Governors carries the year-end statements of each of the Federal Reserve banks and the statement of the twelve Federal Reserve banks combined.

The most important asset items in these statements are the gold certificate reserves, discounts and advances, and United States Government securities. The most important liabilities of the Federal Reserve banks are Federal Reserve notes, deposits, and capital accounts. Each of these requires a brief explanation.

**Asset accounts of the Federal Reserve banks.** The *gold certificate reserves* are "due to" the Interdistrict Settlement Fund, the Federal Reserve Agent, and the Federal Reserve banks. Under federal law, the amount held must equal 25 per cent of the total deposit and note liabilities of the Federal Reserve banks. Since, on December 31, 1946, the gold certificate reserves were \$18,381,293,000 and deposit and note liabilities were \$42,298,705,000, the reserve ratio was 43.4 per cent. It may be observed that the Reserve banks had an excess of \$7,804,000,000 gold certificates over the amount required as reserves against notes and deposits. Four times this amount represents the extent to which the reserve banks might expand their note and deposit liabilities under existing federal law. Should the note liabilities of the Reserve banks increase in the amount of \$31,216,000,000, while the deposit liabilities remained at the same level as before, the reserve ratio would stand approximately at the minimum level required. Should Federal Reserve note liabilities remain at the same level, member bank deposits might increase in the amount of 16.667 times \$7,804,000,000, or \$130,000,000,000, assuming an aver-

age reserve requirement of 16½ per cent against member bank deposit liabilities. These computations reveal the significance of the gold certificate reserves of the Federal Reserve banks. Excess gold certificate reserves provide the base for an expansion in the note liabilities of the Reserve banks and for an expansion of member bank credit. An increase in the holdings of gold certificates by the Reserve banks or a lowering of the gold certificate requirements (as was done in 1945 by act of Congress) increases the potential of

TABLE 30

STATEMENT OF CONDITION OF THE FEDERAL RESERVE  
BANKS, END OF 1945 AND 1946

(In thousands of dollars)

Item	Total	
	1946	1945
<b>ASSETS</b>		
Gold certificates	17,587,177	17,062,565
Redemption fund for Federal Reserve notes	794,116	800,359
Total gold certificate reserves	18,381,293	17,862,924
Other cash	267,890	236,315
Discounts and advances:		
Secured by U. S. Government securities	15,779	201,995
Other	147,300	47,000
Total discounts and advances	163,079	248,905
Industrial loans	550	1,941
U. S. Government securities:		
Bills	14,744,983	12,831,245
Certificates	7,496,012	8,364,461
Notes	355,300	2,119,650
Bonds	753,390	946,892
Total U. S. Government securities	23,349,685	24,262,248
Total loans and securities	23,513,314	24,513,094
Due from foreign banks	102	110
Federal Reserve notes of other Federal Reserve Banks	163,385	153,226
Uncollected items	2,599,574	2,197,932
Bank premises	32,406	33,382
Other assets	48,449	65,915
Total assets	45,006,413	45,062,898

TABLE 30 (Continued)

Item	Total	
	1946	1945
<b>LIABILITIES</b>		
Federal Reserve notes	24,945,304	24,649,132
Deposits:		
Member bank—reserve account	16,138,878	15,914,950
U. S. Treasurer—general account	392,869	976,668
Foreign	508,016	862,320
Other	313,638	445,572
Total deposits	17,353,401	18,199,510
Deferred availability items	2,019,896	1,619,770
Other liabilities including accrued dividends	9,392	7,661
Total liabilities	44,327,993	44,476,073
<b>CAPITAL ACCOUNTS</b>		
Capital paid in	186,830	177,095
Surplus (Sec. 7)	439,823	358,355
Surplus (Sec. 13b)	27,455	27,428
Other capital accounts	24,312	23,947
Total liabilities and capital accounts	45,006,413	45,062,898
Contingent liability on bills purchased for foreign correspondents	6,547	
Commitments to make industrial loans	8,309	1,644
<b>FEDERAL RESERVE NOTE STATEMENT</b>		
Federal Reserve notes:		
Issued to Federal Reserve Bank by Federal Reserve Agent	25,741,606	25,633,380
Held by Federal Reserve Bank	796,302	984,248
Federal Reserve notes, net	24,945,304	24,649,132
Collateral held by Federal Reserve Agent for notes issued to Bank:		
Gold certificates	11,053,000	10,523,000
Eligible paper	12,812	201,455
U. S. Government securities	15,226,565	15,403,201
Total collateral held	26,292,377	26,127,656

expansion of Federal Reserve notes and member bank deposits, while a fall in gold certificate holdings or a rise in the percentage required against each dollar of notes and Federal Reserve bank's deposits decreases this expansion potential.

The *discounts and advances* might represent, in part, the amounts credited to the accounts of the member banks on customers' paper and U. S. Government securities. It might also include, as was the case in 1946, foreign loans on gold. In recent years, the amount of customers' paper discounted for member banks has been negligible or, for long periods of time, nonexistent. Member banks find it more convenient to borrow on their own notes secured by U. S. Government securities. Hence "discounts and advances" to member banks are mostly advances. This item is particularly small on year-end dates, because banks do not like to show indebtedness to the Reserve banks on their financial statements.

The item United States Government securities is the principal earning asset of the Federal Reserve banks. This item, therefore, represents the most important means whereby Federal Reserve credit is released to the economy, mostly to the member banks. An increase in this item (also an increase in discounts and advances) tends to increase Federal Reserve bank deposits, which are the reserve accounts of the member banks.

It should be understood from the foregoing explanations that the gold certificate reserves of the Federal Reserve banks represent the item that places a limit on Federal Reserve credit expansion, while the acquisition of discounts, advances, and U. S. Government securities represents the method by which Federal Reserve banks' credit is extended.

*Federal Reserve notes of other Federal Reserve banks* are notes that are to be returned by the banks that held them on the statement-issuing date to the Federal Reserve banks that issued them. This item, therefore, is a part of the note liabilities of issuing banks.

*Uncollected items* are checks and other cash items in process of collection. When, for example, the Federal Reserve Bank of Chicago receives checks from clearing banks for collection, it places them in both the "uncollected items" account and the "deferred availability" account. When uncollected items are collected from banks in other districts, the Federal Reserve Bank of Chicago gets credit for them

on its accounts with the Interdistrict Settlement Fund. When the clearing banks are entitled to credit for items sent in for collection according to the deferred availability schedule, the deposit accounts of the clearing banks are credited. Hence the difference between the deferred availability account of the Federal Reserve Bank of Chicago and its uncollected items account is that items have been credited to the accounts of the clearing banks but have not as yet been credited to the account of the Federal Reserve Bank of Chicago with the Interdistrict Settlement Fund. (This explanation, therefore, covers both the asset account, "uncollected items," and the liability account, "deferred availability.")

**Liability accounts of the Federal Reserve banks.** The liability of the Federal Reserve banks under the provisions for the issuance of Federal Reserve notes can be understood by reference to the "Federal Reserve Note Statement" that accompanies the statement of condition of the Federal Reserve banks. It will be observed that the net amount of this liability item excludes the notes held by the Federal Reserve bank to which they were issued by the Federal Reserve Agent. This statement also shows the insignificant volume of eligible paper held as security for Federal Reserve notes, and that the Federal Reserve Agent holds more than 100 per cent security, mostly government securities, and gold certificate, for the amount of such notes outstanding.

The deposits of the Federal Reserve banks consist of the reserve accounts of the member banks, compared with which their other deposit liabilities are small. The deposit of the U. S. Treasurer's general account is, however, important in that an increase in this item reflects a decrease in the reserve balances of commercial banks, while a decrease in this item causes these reserve balances to rise. Foreign deposits consist largely of deposits of foreign central banks. "Other deposits" consist of nonmember bank clearing accounts, officers' and certified checks, Federal Reserve exchange drafts, and miscellaneous accounts.

The account "capital paid in" is the total par value of the stock in the Federal Reserve banks to which the member banks have been required to subscribe. "Surplus (Section 7)" represents the accumulated net earnings of the Reserve banks that have been transferred to surplus, while "other capital accounts" comprise earnings



not yet transferred to surplus and reserves for contingencies. "Surplus (Section 13 b)" represents the capital contributed by the Secretary of the Treasury, authorized by Act of Congress of June 19, 1934, to enable the Reserve banks to make direct loans to industrial firms for working capital purposes.<sup>4</sup>

### BANK INCOME AND EXPENSES

In addition to financial statements that reveal assets and liabilities at the close of business on certain dates, banks issue statements of income and expenses that disclose the results of their operations over a period of time, usually one year. The operating statements of individual banks are, however, not usually made available to the general public as are the financial statements.

Member bank earnings for all member banks combined and for each class of banks (central reserve city banks, reserve city banks and country banks) are published semiannually in the *Federal Reserve Bulletin* and annually in the *Annual Report of the Board of Governors of the Federal Reserve System*. Similar data for all insured banks are published in the *Annual Report of the Federal Deposit Insurance Corporation*.

Member bank earnings. Table 31 reveals that the chief source of member bank earnings in 1945 and 1946 was interest received on U. S. Government securities and that income from loans was next in importance in producing revenues for banks in those years. Table 31 shows that in 1946 member banks received 43.9 per cent of total earnings from U. S. Government securities and 6.1 per cent from other securities, making a total of 50 per cent from all securities held. Income from loans was 32.2 per cent and other income was 17.8 per cent of total earnings. (In 1929, banks earned over two and one-half as much on loans as on securities.)

The average rate of interest and dividends on total securities in 1946 was 1.5 per cent, while earnings on loans was 3.2 per cent of total loans. In the same year, total securities made up 58.6 per cent total assets, while loans accounted for only 18.3 per cent of total assets.

Expenses of member banks. Total expenses of member banks in 1946, as is shown in Table 31, were 61.1 per cent of total earnings.

<sup>4</sup> U. S. C., title 12, sec. 352 a (a) (b) (c) (d) (e).

Net earnings before income taxes were, therefore, 38.9 per cent of total earnings. Taxes on net incomes were 11.9 per cent of total earnings, while net recoveries (gross recoveries minus new deductions for losses) were 4.5 per cent, making net profits of 31.5 per cent of total earnings.

TABLE 31

## MEMBER BANK EARNINGS AND EXPENSES, 1945-1946

(Dollar amounts in millions)

Item	Total	
	1945	1946
<b>Earnings</b>	<b>\$2,102</b>	<b>\$2,403</b>
On U. S. Government securities	997	1,054
On other securities	139	148
On loans	588	772
All other	378	429
<b>Expenses</b>	<b>1,268</b>	<b>1,469</b>
Salaries and wages	580	699
Interest on deposits	183	212
All other	505	558
<b>Net current earnings before income taxes</b>	<b>835</b>	<b>934</b>
<b>Profits and recoveries</b>	<b>454</b>	<b>356</b>
Recoveries on securities	113	54
Profits on securities	239	183
Recoveries on loans	56	64
All other	46	55
<b>Losses and charge-offs</b>	<b>230</b>	<b>247</b>
On securities	118	115
On loans	47	62
All other	65	70
<b>Profits before income taxes</b>	<b>1,058</b>	<b>1,043</b>
<b>Taxes on net income</b>	<b>270</b>	<b>285</b>
<b>Net profits</b>	<b>788</b>	<b>758</b>
<b>Cash dividends declared</b>	<b>246</b>	<b>267</b>

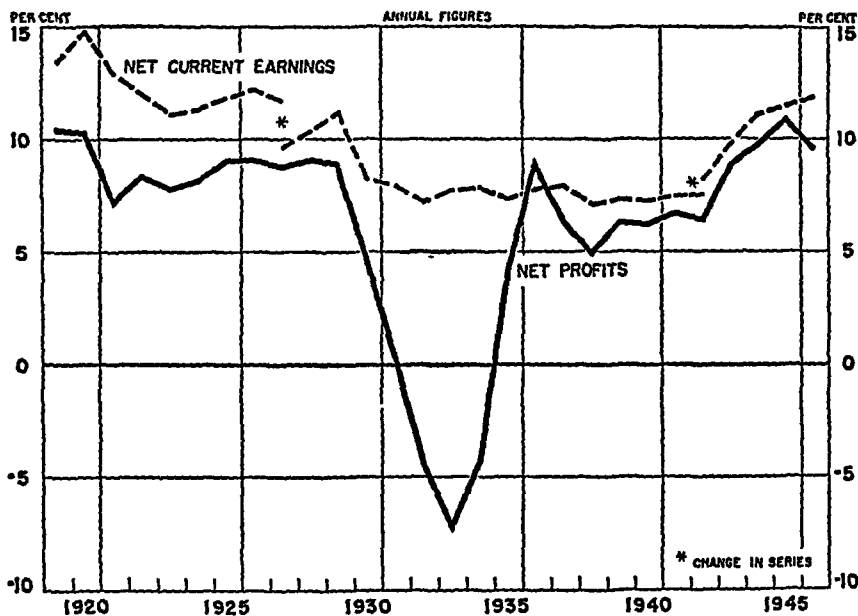
Earnings on capital accounts. The net profits of member banks in 1946 were 9.6 per cent of total capital accounts. This figure com-

pared with 10.9 per cent in 1945 which was the year of greatest profits for banks since 1920. Three factors contributed more than others to the decline in bank profits from 1945 to 1946. One of these was the much larger rate of recoveries in the former than in the latter year. Recoveries on losses previously written off could not be expected to continue to rise, even as the degree of business prosperity advanced, since recoveries on most previous charge-offs had been achieved by the end of 1945. The second important factor contributing to lower profits in 1946 than in the previous year was the rise in operating expenses. A third factor was the decline in holdings of government securities attributable to the Treasury's policy of debt retirement with especial emphasis on the retirement of the bank-held federal debt.

Chart 11 reveals the net profits of member banks, 1920-1945,

Chart 11

**MEMBER BANK EARNINGS AND PROFITS  
AS PERCENTAGES OF CAPITAL ACCOUNTS**



Source: *Annual Report*, Board of Governors, 1946, p. 46.

compared with net current earnings. It will be observed that net profits of member banks from 1929 to 1934 fell much faster and to a lower level than did net current earnings. The explanation for this

phenomenon is to be found in the very high level of charge-offs on loans and investments in those years.

The summary statement of the study, *The Earning Power of Banks*, published by the Research Council of the American Bankers Association in 1939, serves admirably as a summary of this chapter. The observations of this study group are as valid today as in 1939. It has come to pass that banks have qualified themselves "to handle enlarged investment accounts" and have "broadened loan facilities" in the form of capital loans, instalment credit loans, etc. A part of the statement of the Research Council is reproduced below:

Under existing conditions commercial banks generally find it possible to obtain employment for only a relatively small proportion of their loanable funds in those types of loans to industry and trade which long constituted their chief sources of income.

The force of circumstances has made it necessary for them to accept employment for a large part of their loanable funds in investment securities, particularly in U. S. Government obligations which constitute more than half their total investment account.

These changes have been accompanied by substantial reductions in interest rates on loans and in yields on investments and these factors have seriously impaired the rate of income of banks from these major sources of their earnings.

In this fall in interest rates customary economic factors have been accentuated by a number of special circumstances. Fundamental changes in the prevailing business habits of the nation have brought about a great reduction in the use of commercial credit. Popular, political and Governmental attitudes toward interest and financial institutions and practices tend to retard a restoration of the returns on moneyed capital to former levels.

In view of these modifications in the conditions under which banks now function, and which promise to continue in force, it would appear that the innovations which are developing in bank operating methods and loaning policies are necessary.

It is recognized, however, that this is a period of transition which imposes upon commercial bank management special requirements of judgment and caution. This would appear to apply especially to the field of capital assets which now enter largely into bank earning assets.

It would seem advisable for banks to study the possibilities in their respective communities for extending broadened loan facilities to the public as a means of strengthening their income. These would include systematic methods for granting capital loans, the making of personal or instalment credit loans and the origination of and investment in amortized

TABLE 32

**OPERATING STATEMENT RATIOS OF ALL MEMBER BANKS,  
1943-1946**

(Computed from aggregate dollar amounts; ratios expressed as percentages)

	1943	1944	1945	1946
<b>SUMMARY RATIOS:</b>				
<b>Percentage of total capital accounts:</b>				
Net current earnings before income taxes	9.7	11.1	11.5	11.9
Profits before income taxes	10.7	12.4	14.6	13.3
Net profits	8.8	9.7	10.9	9.6
Cash dividends declared	3.3	3.4	3.4	3.4
<b>Percentage of total assets:</b>				
Total earnings	1.7	1.7	1.7	1.8
Net current earnings before income taxes	.6	.7	.7	.7
Net profits	.6	.6	.6	.6
<b>SOURCES AND DISPOSITION OF EARNINGS:</b>				
<b>Percentage of total earnings:</b>				
Interest and dividends on:				
U. S. Government securities	46.4	51.2	47.4	43.9
Other securities			6.6	6.1
Earnings on loans	34.1	30.1	28.0	32.2
Service charges on deposit accounts	4.6	4.6	4.2	4.1
Other current earnings	14.9	14.1	13.8	13.7
<b>Total earnings</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Salaries and wages	29.5	28.0	27.6	29.1
Interest on time deposits	7.5	7.7	8.7	8.8
Other current expenses	25.9	24.4	24.0	23.2
<b>Total expenses</b>	<b>63.0</b>	<b>60.1</b>	<b>60.3</b>	<b>61.1</b>
<b>Net current earnings before income taxes</b>	<b>37.0</b>	<b>39.9</b>	<b>39.7</b>	<b>38.9</b>
Net recoveries and profits	3.8	4.6	10.7	4.5
Taxes on net income	7.0	9.8	12.9	11.9
<b>Net profits</b>	<b>33.8</b>	<b>34.7</b>	<b>37.5</b>	<b>31.5</b>

TABLE 32 (Continued)

	1943	1944	1945	1946
<b>RATES OF EARNINGS ON SECURITIES AND LOANS:</b>				
<b>Percentage of total securities:</b>				
Interest and dividends on securities	1.4	1.5	1.5	1.5
Net recoveries and profits	.1	.2	.3	.2
<b>Percentage of U. S. Govt. securities:</b>				
Interest on U. S. Government securities			1.4	1.5
<b>Percentage of total loans:</b>				
Earnings on loans	3.5	3.2	3.0	3.2
Net recoveries (or losses —)	.1	.1	.05	.01
<b>DISTRIBUTION OF ASSETS:</b>				
<b>Percentage of total assets:</b>				
U. S. Government securities	51.1	55.4	57.4	53.8
Other securities	5.6	4.7	4.4	4.8
Loans	17.2	16.2	15.8	18.3
Cash assets	24.6	22.5	21.3	22.0
Real estate assets	1.1	.9	.7	.7
<b>OTHER RATIOS:</b>				
<b>Total capital accounts to:</b>				
Total assets	6.7	6.2	5.8	5.9
Total assets less Government securities and cash assets	27.6	27.8	27.2	24.6
Total deposits	7.2	6.6	6.2	6.4
Time to total deposits	16.2	16.9	18.4	21.0
Interest on time deposits to time deposits	.9	.8	.9	.8

Source: *Federal Reserve Bulletin*, May 1947, p. 609.

first mortgage loans, as well as efforts to stimulate an increase in their commercial loans.

Narrowed profit margins also indicate the necessity for seeking increased income through adequate fees for specialized services and through sound plans for determining service charges on checking accounts.

Also the narrowed margin between operating earnings and costs makes imperative the practice of detailed departmental cost accounting, analysis and control with a view of determining the profit or loss which each phase of a bank's operations contributes to its earning power and of elimination of weaknesses which may appear in any department.<sup>5</sup>

<sup>5</sup> *The Earning Power of Banks*, Research Council of the American Bankers Association, Leonard P. Ayres, chairman, pp. 77-78.

## STUDY QUESTIONS

1. What possible explanations might be made for persistent adverse clearing balances encountered by a bank?
2. Define *deposit turnover*, and explain its significance.
3. "If debits to individual accounts have increased 10 per cent from the beginning to the end of a period of time, the same percentage increase in the physical volume of production is indicated." Do you agree? Explain.
4. "The rate of turnover of bank deposits is greater in the great financial centers than elsewhere in the banking system." Explain.
5. "The rate of turnover of bank deposits was higher in the period 1920-1930 when the total money supply was lower, than in the 1940's when the money supply was much higher." Explain.
6. How do banks today settle either favorable or adverse clearing balances?
7. Why was the clearing of checks roundabout prior to the establishment of the Federal Reserve System?
8. What is meant by "par collection" of checks and why is it not a universal practice?
9. Explain the functions of the Interdistrict Settlement Fund.
10. Describe the use of the "deferred availability schedule."
11. Explain the significance of the following bank statement ratios: (a) deposits to capital accounts, (b) earning assets to capital accounts, (c) government security holdings to total earning assets, (d) cash and cash items plus government securities to deposits.
12. Why might a banker be interested in a composite statement of all banks in the United States and the composite statement of all banks of a particular class?
13. Describe the three most important asset accounts and the three most important liability accounts of a Federal Reserve bank.
14. Compute a bank's rate of return on capital accounts from the following information: Expenses were 61 per cent of total earnings. Net recoveries were 2 per cent of total earnings. Taxes were 11 per cent of total earnings. Total earnings were 2 per cent of total assets. Total assets were  $16\frac{2}{3}$  times capital accounts.
15. If a bank's net profits are 0.6 per cent of total assets, and capital accounts are 6 per cent of total assets, what are its net profits as a percentage of capital accounts?

# CHAPTER

## 14

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### THE LIMITS TO BANK CREDIT

#### EXPANSION

**Introduction.** Much of the material in preceding chapters has been devoted to a description of the processes by which banks expand the volume of their deposits and the manner in which bank capital, bank reserves, and the rules set up by regulatory authorities limit this process. Nothing has been said thus far about the extent to which the banks may carry the expansion of credit, nor have all the factors which operate to establish these limits been clearly set forth. The examination of this problem at this stage will serve as a summary of the preceding discussion and will also provide greater precision in later treatments of the expansion of credit.

It should not be supposed from what follows that the banking system always automatically expands to the limits which will be shown to exist. There are two reasons for this: if the public does not desire additional monetary resources, it may be difficult for the banking system to increase the volume of deposits by a significant amount; and the psychological state of the banking community often forbids the banks from engaging in the purchase of securities and the extension of loans although their reserves may permit them to do so. It should be clear from this statement, therefore, that the following discussion of limits relates to the limits that arise from regulations and from the customs of the public and the banking system; it does not consider the psychological limits inherent in the public's attitude toward increasing its holdings of money nor the



banker's attitude toward providing additional monetary resources. Such problems as these are the subject matter of the theory of the value of money and will be examined in greater detail in later chapters.

### VARIABLES IN THE EXPANSION OF CREDIT

Analysis of the limits to bank credit expansion may be approached by first reviewing certain of the salient features of the banking process. The most important of these for the problem at hand are: (1) reserve requirements, (2) the relations of deposits to cash in circulation, (3) the relative size of the individual bank, and (4) the relation of bank loan policy to bank credit expansion.

**Reserves.** In the study of bank reserves, it was shown that members of the Federal Reserve System are required to maintain deposits with their regional reserve bank equal to a certain percentage of their demand and time deposits. Prior to the changes authorized by the Banking Act of 1935, these reserves were 7 per cent for country banks, 10 per cent for reserve city banks, 13 per cent for central reserve city banks, and 3 per cent for time deposits, regardless of the classification of the bank receiving them. This act, however, empowered the Board of Governors of the Federal Reserve System to increase reserve requirements by as much as 100 per cent of their former levels in controlling the expansion of credit. Under this authority, the requirements have been changed a number of times. Since the present problem is the determination of the maximum expansion, the lowest permissible rates will be used. Obviously the use of the higher reserve requirement would yield a lower ratio of expansion, although not proportionately lower since this is not the only variable involved.

Another decision which must be made is the choice of a specific reserve requirement, that is, should the requirement on country banks, on reserve city banks, or on central reserve city banks be used in studying the expansion of credit, or would an average of the three be preferable. This problem will be considered later in this chapter where it will be shown that a fairly satisfactory choice is the average of the three rates which, in the present case, is 10 per cent.

While only the figures for legal reserves are generally used in studies of credit expansion, it should be remembered that a bank

cannot operate on reserves which are only large enough to satisfy the minimum legal requirement. The reasons for this are, first, that a bank must hold a certain amount of cash in its own vaults, and this cash cannot be counted as a part of its legal reserves; and second, most banks will find it desirable to retain a small margin of excess reserves in order to be prepared to accommodate worthy customers. These two circumstances reduce somewhat the amount of expansion possible with a given free reserve but since they are small in most cases, they will be ignored in the following analysis.

**Relation of bank deposits to cash in circulation.** It is a matter of familiar observation that while we make most of our payments by the transfer of bank balances, there remain a certain number of payments which are made through the use of currency. In the process of spending and investing its income, the public carries part of its liquid resources in the form of cash in its pockets. The amount which will be carried in this form is determined by the level of income, the percentage of the income spent, the practice of retail outlets in granting credit, the volume of the national income which is consumed by those individuals who do not maintain checking accounts, and the faith of the public in the convertibility of deposits into cash on demand. Other considerations such as the cost of checking accounts at banks might be mentioned, but the above list will suffice to show the general conditions which affect this decision.

Professor J. W. Angell has shown that the ratio of currency in circulation to total deposits declined in the United States from 1890 to 1930, with the exception of a slight rise during the war period, 1917-1918.<sup>1</sup> During the years of the depression of the early 1930's, a hoarding movement occurred, caused in part by the growing inability of the banks to redeem their deposits. For a time thereafter, the ratio declined, but a further great rise occurred during World War II so that today the circulation outside of banks and the issuing agencies is about \$26 billions. Deposits of all banks amount to \$156 billions. The public, therefore, is currently holding 14 per cent of its cash resources in the form of currency. This percentage will be used in the following study as the measure of the public's desire for cash.

<sup>1</sup> Angell, J. W., *The Behavior of Money*, New York: The McGraw-Hill Book Co., 1936, p. 16.

**Relative size of the individual bank.** The expansion and contraction of income in modern society is reflected in individual banking units. If the general demand for credit accommodation rises, each bank can expect to share in the demand in proportion to the relative amount of the total deposits which it holds. If changes are purely regional, only certain banks are affected or feel the increased demand for credit. Barring this contingency, our best assumption is that each bank is affected by given economic and financial events in the same proportion that its deposits bear to the deposits of the entire banking system. A bank of average size in the United States holds deposits of about 0.06 of 1 per cent of all deposits; if the largest bank is used in the analysis, the figure is increased to about 2 per cent. Since the figure chosen is pertinent only in the study of credit expansion in the individual bank, the figure for a bank of average size will be used below.

**Loan policy and credit expansion.** The fourth variable operating to set limits upon credit expansion is the fact that, whether by custom or by the nature of the system of payments, the borrower's account is usually larger by reason of a loan being granted to him than it would have been otherwise. The inclusion of some kind of allowance for this condition has been defended on one of three grounds.

A frequent defense for making allowance for a borrower's balance being larger as a result of a loan is the practice by some banks of requiring a borrower to maintain a balance during the life of the loan equal to 20 per cent of the amount borrowed. This does not mean that his balance must equal its former level plus 20 per cent of the loan; therefore we are not justified by this defense in assuming that the borrower's account will rise by a full 20 per cent of the loan. A second defense for making this allowance is the practice, sometimes applied in banking, of limiting loans to a single customer to an amount equal to five times his average deposit. The effect of such a practice is roughly the same as the first defense noted above. The third and probably the soundest reason for including an allowance for this fact is that, regardless of how carefully a borrower estimates the amount and timing of his loan, there will be a period when his balance will be larger than if the loan had not been granted. Moreover, if the banker is able to stagger his loans so as

to have a part of them mature each day as others are granted, some borrowers' accounts will be rising in anticipation of the maturity of their loan as others are withdrawing balances created by loans that are newly granted.

Clearly it is impossible to determine an exact ratio from this description. These arguments simply demonstrate that a ratio of some definite proportion must be employed to arrive at a reasonably accurate estimate of the amount of credit the banking system is able to create from a given amount of excess reserve. This factor is particularly important only in the analysis of credit expansion in the individual bank, for when the entire system of banks is studied, the diffusion of deposits throughout the system causes other banks to receive the deposits created by the loan at any one bank. In the following material, it will be assumed that the borrower maintains a balance equal to 20 per cent of his loan throughout the loan period.

#### CREDIT EXPANSION IN AN INDIVIDUAL BANK

The analysis of the limits of bank credit expansion has traditionally begun with a treatment of the changes which develop in an individual bank when a loan is granted. This procedure has the advantage of clarifying some of the problems before others are encountered and also gives an answer to the question of how far a single bank can go in expanding credit.

A single bank which expands its loans during a period when other banks in the system are neither expanding nor contracting their loans will find itself subjected to three types of drains upon its reserves, namely: (1) the withdrawal of balances to other banks as the borrower draws checks in making payments, (2) the drain of cash into circulation to be used as hand-to-hand currency in conjunction with the increased demand deposits, and (3) the reserves which are impounded for meeting the legal reserve requirements against the new deposits.

Let us assume that a bank possessing excess reserves of \$1,000 receives a request for an advance of the same amount. We may determine the coefficient of expansion in a single bank by estimating the total reserves which will be lost or impounded as a result of the loan and then expressing this quantity as a ratio of the original excess reserve.

Withdrawals of deposits to other banks. Assuming that banks follow the practice of requiring that 20 per cent of a loan be left on deposit, the customer securing a loan of \$1,000 will have a disposable balance of only \$800. He will draw checks for this amount, and the funds will be diffused throughout the banking system, each unit receiving a percentage representing its proportion of the bank deposits of the entire system. The bank which originally made the loan is not excluded from this; if it is of average size, it will receive in this diffusion 0.06 per cent of the \$800 or about \$0.48. Thus the loss of reserves has been reduced to \$799.52.

The second drain on the bank's reserves develops when the public withdraws currency from the bank, a step which is necessary in order to re-establish the previous ratio between cash on hand and deposits. Once having determined this loss, we shall be able to determine the net increase of the lending bank's deposits against which the legal reserve requirements must be computed.

Withdrawals of cash by the public. It has been shown in the discussion above that the public chooses to hold a certain percentage of its monetary resources in the form of cash. In the recent past, this percentage has been about 14 per cent of the total of deposits and cash in circulation outside the banks. The deposits available for withdrawal in all banks have been increased by \$800. The public may, therefore, be assumed to desire to hold part of this amount as cash and the remainder as a deposit credit. To re-establish the previous ratio of cash to deposits, the public will withdraw 14 per cent of \$800, or \$112. This is the amount withdrawn from all banks. Since the bank in the present illustration is assumed to be of average size, it will lose its proportionate part of the currency or \$112 times 0.06 per cent, or \$0.067. The bank making the original loan of \$1,000 will have lost \$799.52 as deposits to other banks and \$0.07 by cash withdrawals, or a total of \$799.59, leaving a net increase of its deposits of \$200.41.

Required reserves. The increase of \$200.41 in the deposits of the lending bank will have to be covered by reserves, the amount of which will depend upon the legal requirement for banks in cities of its particular class. If we assume that it is a reserve city bank with a requirement of 10 per cent, then legal reserves required will be \$20.04. While the bank does not lose this amount in the sense

that it is withdrawn, it is impounded as a reserve as long as the deposit exists, and consequently is not available for the support of other advances. The addition of this reserve requirement to the losses suffered through withdrawals to other banks and from cash drains into the hands of the public indicates that the bank will have a total loss of \$819.63. Since the bank was assumed to possess excess reserves of \$1,000, there will remain \$180.37 which may form the basis for repeating the process.

It would be possible to arrive at the limits to the amount of deposits an individual bank can create on a given reserve by repeating the analysis on the remaining free reserve. This procedure would give a remainder on which the process would again be repeated until the remainder approached zero. It is simpler, of course, to divide the original reserve of \$1,000 by \$819.63, which gives a coefficient of approximately 1.22. This means that an individual bank, operating under the conditions which have been assumed, would be able to lend \$1,220 on a reserve of \$1,000.

**Limitations.** The above illustration shows that when an individual bank adopts a policy of loan expansion not followed by other banks in the system, it soon finds its cash reserves impaired so seriously as to stop its lending. A corollary of this observation is that the individual bank can do little to encourage credit expansion if the remainder of the banks are not expanding their loans and investments, and therefore, if there is to be credit expansion, it must be undertaken by a large part of the banking system at the same time. Just how large a part this must be depends upon the existing volume of excess reserves, for, if certain banks are expanding while others are not, excess reserves would be moved from the lending banks to the other parts of the system without substantial effect upon the aggregate credit. If the expanding banks constitute a substantial proportion of all banks, the diffusion of deposits among them will permit the expansion to carry beyond the amount indicated by the above analysis. Such a case as this represents a situation intermediate between the case of credit expansion in the individual bank as just stated and the case of a system of banks which will be considered in the following section.

A further qualification on the above treatment of credit expansion in the individual bank and one that has seldom received attention

in this connection, is the relative rates of regional change, which, in the statement above, have been assumed to be equal. If the bank creating the loan of \$1,000 had been located in a region expanding at a rate substantially higher than the rest of the country, the chances of its losing its proportionate part of the funds in the clearing house settlement would be reduced. There would be a drift of capital into the area with a resultant increase in the balances of local business establishments. An analogous case occurs when there are differential rates of growth between countries.

### CREDIT EXPANSION IN A SYSTEM OF BANKS

The study of the expansion of bank credit in a single bank employed the assumption that the other banks in the system were neither expanding nor contracting their loans. It should be apparent that if other banks followed a policy of restricting their loans, the individual bank which attempted to expand would find its reserves drained to a greater extent than its proportion of the total banking assets would warrant. An individual bank, therefore, could not expand its deposits appreciably above the amount of its excess reserves under these conditions. It is possible, if the contraction of loans in other banks is very large, that the individual bank might lose its excess reserves without having created any new balances by granting loans or purchasing investments.

Since our problem is to determine the maximum limits of deposit and currency expansion on a given reserve, we may continue the analysis in terms of a situation in which all the commercial banks expand deposits at the same time. For this problem, the assumption of an active demand for loans will be continued.

When all banks in the system are expanding at the same time, it will be unnecessary to consider the ratio of a given bank's deposits to the entire system of deposits. The reserves which are lost by the bank first creating a deposit are gained by the remaining banks where they provide the basis for new loans leading to new deposits. If the process of loan expansion were continued through these banks making loans to the maximum permitted by legal and customary limitations, we could determine the expansibility of a given amount of excess reserves by adding together these separate acts of expan-

sion and dividing their sum into the original excess reserve. Suppose, for example, that all banks are required to maintain reserves of 15 per cent on deposits and that this requirement is the only limitation on the creation of deposits. A bank receiving a deposit of \$15,000,000 in gold would hold a reserve of \$2,250,000 against it and would lend and invest the remaining \$12,750,000. Individuals receiving these loans would draw checks that, we may assume, would be deposited at a second bank where the same process would be repeated. If the process were continued through a series of banks, the results would be somewhat as is indicated by the hypothetical illustration quoted from the *Federal Reserve Bulletin*.

Number of bank	Additional deposits received (100%)	Additional loans made (85%)	Additional reserves retained (15%)
1st bank	\$15,000,000	\$12,750,000	\$2,250,000
2nd bank	12,750,000	10,837,500	1,912,500
3rd bank	10,837,500	9,211,875	1,625,625
4th bank	9,211,875	7,830,094	1,381,781
5th bank	7,830,094	6,655,580	1,174,514
6th bank	6,655,580	5,657,243	998,337
7th bank	5,657,243	4,808,657	848,586
8th bank	4,808,657	4,087,358	721,299
9th bank	4,087,358	3,474,254	613,104
10th bank	3,474,254	2,953,116	521,138
All other banks	19,687,439	16,734,323	2,953,116
Total	\$100,000,000	\$85,000,000	\$15,000,000

Source: *Federal Reserve Bulletin*, Feb. 1940, p. 100.

Since this analysis is devious and also ignores cash withdrawals by the public, we can follow the same procedure that was used in our first case. In other words, we may estimate the amount of reserves required and the amount of cash withdrawn into the hands of the public as the result of a loan, and then express this total as a ratio of the original excess reserves.

Suppose the banks of the system hold excess reserves of \$1,000 against which they grant loans of the same amount, crediting the accounts of their customers. If an average balance of 20 per cent is required, only \$800 of this is available for use by the customers of the banks. The cash withdrawals against this amount will be, as



before, 14 per cent of the new deposits, or \$112. The banks will be required to hold legal reserves of 10 per cent against the amount by which their deposits are increased (\$1,000-\$112, or \$888). They will therefore need legal reserves of \$88.80. The total excess reserves lost through the withdrawals of cash and impounding of reserves will be \$88.80 plus \$112, or a total of \$200.80. The coefficient of expansion will then be \$1,000 divided by \$200.80, or 4.98. This means that the system of banks can create a total of \$4,980 of deposits on an excess reserve of \$1,000, when credit expansion to the limits permitted by existing laws and customs takes place.

The coefficient of expansion which has been developed here is materially lower than that frequently quoted in the popular press, where it is usually stated that a system of banks can expand its excess reserves ten times. The difference is accounted for by the fact that the ratio of 10:1 is developed without consideration of the drain of cash into the hands of the public. Since this is so often a part of the results which follow from a loan expansion, the ratio developed here is unquestionably more accurate and more realistic over a period of time. The older ratio may be more typical at the upturn of the business cycle when the public is already liberally supplied with cash because of the cash withdrawn from banks during the previous period of depression. Toward the end of a long period of business expansion a greater than proportionate demand for cash occurs as the funds which have been borrowed by business are spent for payrolls. Individuals with small incomes, who do not maintain checking accounts with the banks, carry a large proportion of that income as cash. In the period of prosperity, the demand for cash may be higher than has been assumed in our analysis. The average ratio of cash to deposits over the entire business cycle, however, is probably fairly close to the ratio which has been used in the above analysis.

## CREDIT EXPANSION THROUGH THE CENTRAL BANK

Up to this point, excess reserves have been discussed without specifically considering their form. As a matter of fact, the forms which these reserves take will be found to vary from one country to another. In the United States, the major part of banking is carried

on by units operating as members of the Federal Reserve System. The reserves of these banks are held by the Federal Reserve banks of the various districts. It should be recalled that the Federal Reserve banks are not required to hold gold certificates equal to the reserves that their members deposit with them; that is, gold certificates held by the Reserve banks need be only a fraction of their deposit and note liabilities. In view of this, it is apparent that the Federal Reserve banks may contribute to credit expansion, if it is their policy to do so, by loans, rediscounts, and open market purchases of bonds, bills, and commercial paper.

During the period from 1913 to 1933, the Federal Reserve banks were required to hold reserves in gold or lawful money equal to 40 per cent of their note liabilities and 35 per cent of their deposit liabilities. In 1933, the law was amended to require the reserve to be gold certificates; and, in 1945, the gold certificate reserve requirement was reduced to 25 per cent for each type of liability. In continuing this analysis, we may first determine the coefficient of credit expansion for the old conditions and then for the new, and thus estimate the extent to which the legal changes in reserve requirements raised the potential credit expansion upon given amounts of reserves.

It was indicated in the preceding section that when a system of banks expands credit under the conditions there assumed, \$88.80 of reserves is required and \$112 is drawn into circulation by the public for use in hand-to-hand transactions. Under the old requirement, the Federal Reserve banks would have needed gold certificates equal to 40 per cent of \$112 plus 35 per cent of \$88.80, or \$75.88. Therefore only \$75.88 in gold certificate reserves would have been required to support \$1,000 of deposits and currency in the hands of the public. The coefficient of expansion is thus \$1,000 divided by \$75.88, or 13.18. To state this fact in another way, a reserve of \$1,000 in gold certificates held by the Federal Reserve System can be used to support a maximum of \$13,180 of deposits and currency.

The current reserve requirements of 25 per cent against each type of liability raised the coefficient to a higher level. The sum of the reserves required against deposits and notes in the above example is \$200.80. Since gold certificate reserves of \$50.20 are required

under current regulations, the coefficient becomes \$1,000 divided by \$50.20, or 19.92. It is apparent, therefore, that the Congress greatly increased the power of the banking system to create additional money supplies when, in 1945, it lowered the reserve requirements for liabilities of the Federal Reserve System.

**Assumptions of the foregoing analysis.** The purpose of the previous analysis has been to define in more or less realistic terms the maximum limits to which the present American banking system could proceed in the creation of deposit balances. For such a treatment of foreign conditions, the assumptions would have to be changed to conform to the laws and banking customs of the individual countries. Thus, a country in which a larger proportionate reserve was carried, and where the public made more of its payments by means of currency, would have a lower coefficient of expansion. Since these differences exist, it is possible that gold flowing from the United States, for example, may cause credit to contract at a faster rate here than credit could be expanded in the country that received the gold. If the banks of the United States customarily expand credit eight times the amount of their gold reserves, while the French banks expand credit only four times, the reduction of credit in the United States resulting from export of gold to France would be twice as great as the French expansion.

The most important conditions required for the achievement of maximum credit expansions are (1) a central bank policy which, for whatever reasons, considers credit expansion desirable, (2) the presence of an active demand for the loans which the banks could create for the account of the public or the government, and (3) a banking community inclined to grant loans because of a favorable attitude toward future business conditions. These conditions are cited merely to show that credit expansion does not occur automatically when only the monetary requirements are present.

The ratios established in the preceding discussion may be somewhat inaccurate, since many banks are not members of the Federal Reserve System and are therefore not subject to the same rules concerning the maintenance of reserves. However, since few, if any, of the states have banking laws which are stricter than the national regulations, we may assume that our coefficients would not be lowered by a closer approximation of the facts. A second limitation

exists in the fact that not all circulating notes are issued by the Federal Reserve banks, since a part of the circulating currency is made up of fractional coins, greenbacks, and other Treasury issues. If all the circulation media were made up of these elements so that little or no gold were required for note expansion, the coefficient of expansion through a central bank would be increased from 19.92 to about 45.

### SOME ASPECTS OF THE PROBLEM OF REQUIRED RESERVES

The examination of the limits to credit expansion raises certain questions regarding the function of required reserves, particularly when viewed from the standpoint of other material on this question in preceding chapters. In Chapter 12, "Banks Maintain Reserve Balances," it was shown that the purpose of bank reserves is the regulation of the banks' ability to create deposits. In the light of this statement, is it also true that the purpose of classifying cities into country, reserve city, and central reserve cities is to impose a more rigid control on the larger cities than is applied to country banks? This would seem to be the case from casual observation but we may obtain a different answer if the problem is regarded from the viewpoint of the preceding analysis of credit expansion.

It has already been shown that when banks expand the volume of their deposits by making loans and purchasing investments, the deposits are diffused throughout the banking system. The best assumption that can be made with respect to this diffusion is that each of the three groups of banks shares in it on the basis of that group's proportion of the deposits previously held since this constitutes a fairly reliable measure of the amount of business each group is handling. As of a recent date, country banks held 37 per cent of the adjusted deposits of member banks, reserve city banks held 35 per cent, and central reserve cities held 28 per cent. Hence in any diffusion of deposits, the three classes would share about equally.

If it could be assumed, which it certainly cannot, that country banks expanded credit in unison and that the resulting deposits were diffused only among the country banks, then the coefficient of credit expansion for such a system of banks would have to be

derived by using a reserve requirement of 7 per cent. Since diffusion does in fact occur among the several classes of banks, banks with the higher reserve requirements will be limited in the amount of deposits which they can create on reserves received in the diffusion. At first glance, it might appear that this is, in effect, a limit upon such classes of banks which does not apply to the banks in smaller centers. However, since the requirements reduce the amount of secondary expansion by banks with higher reserve requirements, the subsequent diffusion of reserves and deposits back to the country banks is also smaller. The differentiation of reserve requirements by size of cities is therefore seen to have different effects than superficially appears to be true. The limit upon credit expansion which is imposed by legal reserve requirements is the average of the prevailing rates, and not a specific rate applied to the class of city being analyzed.

While there may be political or administrative reasons for retention of differential reserve requirements, the above discussion indicates that variations in these requirements must be interpreted in terms of the effect upon the average of requirements rather than in terms of the city to which the requirement has been applied. During the recent past, reserve requirements for demand deposits have been 14 per cent for country banks, 20 per cent for reserve cities, and 20 per cent for central reserve cities; thus the Board of Governors could raise the requirement to 26 per cent for the latter class under existing legislation. To do so would limit credit expansion, not only in reserve cities, but in all classes of banks.

The conclusion from this examination of present practice in the application of reserve requirements is that such requirements represent an anachronism carried over from the original National Banking Act, which even then was based upon a defective conception of the function of reserves. When it is understood that reserves function as a control on expansion, and that banks can expand, to any significant degree, only in unison, the differential requirement by size of city is seen to be useless. So long as this is understood in the administration of reserve requirements, no particular difficulty will arise.

The findings of this chapter may now be summarized in a few simple statements. These statements are true on the assumption the

public is willing to hold the monetary resources created by bank purchase of bonds or by their extension of loans.

1. Although no point has been made of the fact, it should be apparent that one of the limits to credit expansion is the price which we choose to place on our gold reserves. If the Congress raises the price from \$35 per ounce to \$50 per ounce, for example, the dollar volume of gold certificates issuable on the present and future gold stock will have been increased correspondingly. The same conclusion holds true for the requirement of gold certificate reserves for Federal Reserve liabilities. If the law is amended to require only 15 per cent reserves against notes and member bank reserve balances, manifestly the coefficient of credit expansion will be increased.

2. The habits of the public in holding notes and deposits as means of payment affect the volume of credit which may be extended on given volume of gold reserves because the withdrawal of notes from banks reduces the reserves of banks and limits the credit-creating process.

3. The prevailing requirement regarding member bank reserves also limits the extension of credit.

4. Since any one bank will lose reserves quickly if it expands credit when other banks are neither expanding nor contracting credit, it is necessary that all parts of the banking system expand and contract together. This aspect of our banking system constitutes a destabilizing element in our economic system for, if some banks could expand while others were contracting, our money supply would be more stable and this condition would materially aid the process of attaining more stable employment.

### STUDY QUESTIONS

1. Determine the coefficient of credit expansion for a system of banks in which average reserve requirements are 20 per cent and the public holds 10 per cent of its monetary resources as currency. How will the coefficient be affected if the public decides to hold 30 per cent of its monetary resources in the form of currency?
2. In Chapter 3, it was shown that the silver elements in our currency system can, under certain circumstances, become an increasing percentage of total currency outstanding. If these silver elements continue to increase, how will the coefficient of credit expansion be affected?

3. "The system of deposit expansion and contraction in our banking system tends to intensify our business cycle." Do you agree with this statement? Why or why not?
4. "Either the mining of gold or the Congress can increase the amount of monetary resources available to the American economy." Show what part each of these can play in the expansion of monetary resources.
5. Since the individual bank can expand its deposits only slightly more than the amount of its excess reserves, how can a system of banks expand several times such reserves?
6. Does the operation of the system of multiple credit expansion require that all bankers be well informed of the principle by which the system operates? Would a few poorly informed bankers tend to prevent the principle from operating?

*PART FOUR*

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THE THEORY OF THE VALUE  
OF MONEY





# CHAPTER

## 15

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### THE VALUE OF MONEY: ITS SIGNIFICANCE AND ITS MEASUREMENT

**Introduction.** The surveys of monetary standards and the banking process which have preceded have frequently referred explicitly or implicitly to various problems that touched upon problems of the value of money. Money standards in general are established with a view to requiring the supply of money to be responsive to certain specific changes in the economic system. Whether the expansion and contraction of credit occurs in response to "the needs of business" or to the dictation of a monetary authority, a control over the supply of money for the purpose of establishing certain objectives is assumed in any monetary system. Both money and banking controls imply that certain relationships exist between money and credit on the one hand and price levels, the volume of output, and the distribution of income on the other. It is the task of theorists of the value of money to explore such potential relationships, and to determine their nature and the extent to which changes in money and credit are in fact reflected in changes in other elements of the economic process. Furthermore, theories of money and credit are directly concerned with social controls, whether such controls imply a *laissez-faire* system or direct intervention.

#### PRICES AND PRICE LEVELS

In general, the notion of economic value is already familiar; we state it when we say that a pound of steak costs as much as four

loaves of bread or a dozen eggs. Our comparisons are more often made through the use of money as a standard of value, since we say that a pound of steak costs 60 cents, a dozen eggs 40 cents, and a loaf of bread 10 cents. In making such comparisons at a given time, we do not consider the possibility that changes in the value of money might have influenced the differences in the levels of these prices; therefore, the value of money does not enter into our consideration. If later we should find the price of bread to be 12 cents, of steak to be 50 cents, and of eggs to be 55 cents, then we might question whether the changes had been due to increases in the costs of production, and to increases in demand, or whether the whole level of prices had risen. It is this type of situation, among others, which a theory of money seeks to explain.

Since the value of an individual commodity is determined by comparing its price with the price of other items, the same procedure may be applied in arriving at a measure of changes in the value of money. The value of a good or of money is its power to command other goods in exchange. Comparison of the values of commodities is simplified by the fact that these values are expressed in terms of money, but this method is not useful when an attempt is made to measure money value, since no progress would be made by expressing the value of money in terms of itself. This difficulty may be removed by comparing the value of money with the value of all other goods. There is, however, no economic entity known as "all other goods," and so an attempt is made to create it or estimate it by a sum or average of a number of prices. Such a sum or average must be used to measure the changes in the value of money because individual goods rise or fall in price in response to changes in their costs of production and changes in the demand for them, or because of the particular market conditions under which they are exchanged. But if certain goods are falling in price, for example, because of lower costs of production, funds are released from their purchase to buy other goods, thereby tending to raise these prices. Therefore it is assumed that, unless changes in the value of money itself occur, changes in the prices of individual goods will be compensatory, and will neither raise nor lower the general level of prices.

## THE SIGNIFICANCE OF THE VALUE OF MONEY

Changes in the value of money are significant for two reasons: first, variations in money value are some of the most pervasively disruptive influences in modern economic life, consequently an understanding of the behavior of money is essential to insight into many of the aspects of the economic process, and second, theories concerning the causes of changes in the value of money form the basis of much of the social control applied throughout the world today. While many eminent students of economic affairs would deny that the behavior of money is the central factor in the instability of modern societies, there seems to be an increasing unanimity of opinion to the effect that any scheme directed toward reducing the amplitude of business fluctuations must take account of the monetary and credit conditions and their powerful influence in contributing to such instability.

A general conception of the problems that have grown out of the instability of the value of money may be obtained by reference to price indexes covering the period from 1913 to 1944. The United States Bureau of Labor Statistics index of a broad list of commodity prices rose from a level of 69.8 (based upon 1926 as 100) in 1913 to 154.4 in 1920, an advance of 121 per cent. Prices then fell by one-third from 1920 to 1922 and thereafter fluctuated within a relatively narrow range until after 1929. From 1929 to 1932, the index declined from 93.3 to 64.8, a drop of 32 per cent. Prices then rose from 64.8 in 1932 to 104.0 in 1944, a rise of 60 per cent. It requires little imagination to appreciate the fact that changes of such magnitudes in this period of 31 years have caused vast changes in the distribution of income as well as substantial changes in the realm of production. The reason that such changes lead to disturbances in production and distribution of income may be examined in greater detail.

Differentials in commodity price movements. It has been stated above that the prices of individual commodities change over a period of time for two classes of reasons: first, changes in demand, costs, or conditions of the market that relate in peculiar ways to each commodity produced; and second, the effect of a change in the value of money upon the price of the commodity. While it is diffi-

cult, in practice, to distinguish the reason for a given price change for an individual commodity, there are certain classes of prices which are obviously not readily adjusted to changes in the value of money, and hence are frequently produced under more or less favorable conditions than if their money costs of production were readily adjustable. One such class of prices consists of those prices fixed by contracts that are renegotiated only at widely separated intervals. An example is a bond agreement wherein the debtor agrees to pay a stated number of dollars as interest over a number of time intervals. Quite similar are the rates fixed for public utilities and railways by public regulatory bodies. It should be apparent that the larger the volume of business transacted by means of such fixed prices, the greater will be the change in the distribution of income resulting from a variation in the level of prices.

A different classification of prices into competitive and noncompetitive groups reveals another type of relationship which is disturbed by price changes. Where prices are competitively determined, there is no price policy involved and the individual sellers adjust their outputs by reference to the prevailing level of costs in comparison with the selling price established by the market. Under such circumstances, the adjustment of the market to a decline in money demand usually takes the form of a major reduction in prices with relatively less adjustment of output. However, under monopolistically competitive conditions, the seller is more likely to choose to operate at a lower level of output in order to maintain prices and hence a margin of profit. It can be expected during a fall in the general level of prices that the prices of goods produced under competitive conditions will fall faster than those not produced under such conditions. Just the reverse occurs during a period of rise in the general level of prices, the prices of competitively priced goods rising faster than those not so priced. A general impression of this process during the business cycle 1929-1937 may be obtained from Table 33.

Since changes in prices have a tendency to cancel out over a price cycle, one may question whether any injustice occurs in the distribution of income over the long run as a result of changes in prices. The answer to this question is that justice is a matter of relationships of individuals, therefore the fact that one individual receives that

**TABLE 33**  
**COMPARISON OF PRICE CHANGES AND PRODUCTION CHANGES**  
**DURING DEPRESSION AND RECOVERY FOR**  
**10 MAJOR INDUSTRIES <sup>1</sup>**

Industry group	Per cent Drop, 1929-1932		Per cent Recovery 1932-1937	
	Prices	Production	Prices	Production
Motor vehicles	12	74	2	64
Agricultural implements	14	84	9	84
Cement	16	55	20	24
Iron and steel	16	76	20	67
Automobile tires	25	42	27	24
Leather and products	33	18	29	27
Petroleum products	36	17	21	37
Textile products	39	28	24	24
Food products	39	10	24	-1
Agricultural commodities	54	1	36	8

<sup>1</sup> The decline in 1929-32 is expressed as per cent of 1929; the recovery in 1932-37 is also expressed as per cent of 1929.

Source: National Resources Committee, *The Structure of the American Economy*, Part I, June 1939, p. 386.

which is taken from another does not make the injustice any the less real.

Social waste in price changes. While price variations lead to changes in the distribution of income that are unrelated to the contribution of individuals to its production, two types of social waste may also be attributed to these fluctuations: first, there is the waste involved in attempts to predict the future course of prices in order to benefit from speculation or to protect profits earned by productive activities. It is easy to see why such waste is necessary as long as prices vary so widely and so rapidly. For example, one large rubber tire and equipment manufacturer earned about \$7.00 per share from operations during the year 1937. The swift decline in prices at the end of that year reduced this profit to about \$2.00 per share as a result of having to write off inventory losses. While a part of this loss might have been compensated by inventory profits during the preceding advance of prices, such changes cause the businessman to shift a part of his interest from problems of efficiency to problems of forecasting the future level of prices. It is probable that

the success of businesses has often been determined as much by the ability of the managers correctly to forecast price changes as by their ability to produce goods efficiently. To the extent that this is true, it is reasonable to suppose that firms whose operating costs are well below the margin have frequently been forced out of production by their failure to judge the course of prices correctly. The advantages of low cost production may have been dissipated in inventory and credit losses. There is therefore a social loss in the fact that production is to some extent placed in the higher cost firms as a result of price variations.

The second type of social waste attributable to price changes is seen in the extent to which the volume of idle equipment and manpower multiplies during periods of falling prices. The data in Table 34, compiled by Professors Thorp and Mitchell, provide a general indication of this phenomenon:

**TABLE 34**  
**PRICE CHANGES AND BUSINESS CYCLES**  
(United States, 1790-1920)

Period	Price change	Years of prosperity per year of depression
1790-1815	Prices rising	2.6
1815-1845	Prices falling	0.8
1849-1865	Prices rising	2.9
1865-1896	Prices falling	0.9
1896-1920	Prices rising	3.1

Source: Thorp, W. L. and Mitchell, W. C., *Business Annals*, New York: National Bureau of Economic Research, 1926, p. 66.

Falling prices so often disrupt the customary relationship between costs, wages, and selling prices that it becomes increasingly difficult to make profits, the volume of idle resources increases, and businesses fail. The longer the period required for processing goods, the greater is the likelihood that the selling price will not cover costs. On the other hand, when prices are rising, contractual costs and "sticky" prices do not rise as fast as selling prices, and the longer productive processes, by requiring inventories to be held for a relatively long time, swell the volume of windfall profits. There are grounds for believing that the economic system adjusts itself with less difficulty and disruption to its normal functions when the price

level is stable or rising than it does when prices are declining. This is not to argue, however, that every price decline is disruptive, for there have often been periods when the rapid advance of technical knowledge has made possible downward adjustments of many prices with no effect except a fall in the cost of living and a rise in the level of consumption.

## MEASUREMENT OF THE VALUE OF MONEY

It has been shown that the problem of measuring changes in the value of money develops from the varied responses of prices to changes in this value. If all prices could be assumed to be equally affected, it would be possible to select any given price and use it as a measure of changes in the value of money. It is apparent that the price changes of individual goods are not related exclusively to changes in the value of money, but that all commodities have elements peculiar to their conditions of production and exchange which cause variations in their prices not common to other goods. Despite this obvious difficulty, the earliest attempts at measurement consisted in the selection of a certain standard commodity, such as wheat, and the observation of changes in its price. Changes in the price of the standard commodity were then assumed to be typical of changes occurring in the price level of all commodities.

In the past fifty years, the index number has been widely adopted as a method of resolving the difficulties of measurement in a price system that has a tendency to fan out into a variety of price changes from one period to the next. Since the value of money is its power to command goods in exchange, the problem of measuring this value lies in summarizing these varied changes into a single expression of net change of the group. If we should follow the procedure that is implied in this definition, we would add the prices at which all goods and services were sold in a given time and compare the result with an aggregate which was similarly determined for a second period. The difference between the resulting totals would provide a measure of the price change which took place during the interval, provided the same volume of goods and services was exchanged in each period. Such a procedure is impossible in practice since the comprehensive information required is not available. Sales of staple commodities, such as wheat, cotton, corn, oats, rye, barley, steel,



copper, lead, and many others, are reliably reported from the central markets where they are bought and sold, but adequate data are lacking on the great volume of retail sales and sales of services and complex manufactured goods. Because of this deficiency, the method usually followed has been to use only those prices that have been made available by the central markets. Since these prices are probably more competitive, and since they are certainly subject to wider variations than the prices of the goods and services whose prices are not available, it is likely that such a selection of prices overstates the degree to which prices change. It also is true that this method recognizes no logical basis of selection other than that of expediency, although certain students of money consider such indexes to be sufficiently accurate measures of price level variations to warrant their continued use.

There are two other current views on the proper selection of prices for the construction of indexes of the value of money. These views are, first, that the most significant prices are those which represent the sale of goods and services to the consumer, and second, that the flow of money occurs through a series of more or less distinct channels and that, therefore, the analysis of money should recognize a "plurality" of price levels to be analyzed. These two views are far from distinct since one of the several price levels to be analyzed under the latter approach is the consumer goods price level, or the Consumption Standard, in Professor Keynes' terms. It appears, therefore, that the difference in view is largely a matter of emphasis.<sup>1</sup>

**The consumption standard.** As Marget has shown, most of the writers who have considered an index of the prices of consumption goods a superior measure of changes in the value of money have simply made a choice and have offered no defense of it. An exception to this statement is Professor Schumpeter<sup>2</sup> who defends the use of a consumption price index as follows:

The price level in our sense is a measure of a property of the system of economic values. This parameter derives from the relation between the flow of expenditure and the flow of things bought by it, and thereby

<sup>1</sup> See Marget, A. W., *The Theory of Prices*, New York: Prentice-Hall, Inc., 1938, Vol. I, p. 495.

<sup>2</sup> By permission from *Business Cycles*, Vol. II, by J. A. Schumpeter, Copyrighted 1939, by McGraw-Hill Book Co., Inc., p. 457.

defines, in a particular way and for a particular purpose, the significance of the unit of accounting and clearing in terms of commodities and services. Now this flow of expenditure runs, as it were, through several basins or economic spheres. For our present purpose we may reduce these basins or spheres to four: the "markets" of finished consumers' goods, of original means of production (primarily labor), of produced means of production (primarily raw materials and machinery), and of titles to income (primarily shares, bonds, and realty). Expenditure flows through all of these but each element of it confronts, at any one time, not all but only one of them. And there is no meaning to a combination of items from different spheres, or the whole of all the items of different spheres or phases, of the monetary stream. A variation in one direction of a price in the market of consumers' goods is not compensated by an equivalent variation in the other direction of a price in the market of producers' goods. There is, to be sure, plenty of interdependence between the different spheres, and units of potential expenditure can be shifted from one to the other. But this is irrelevant for the arithmetic of the thing. The relevant criterion is substitutability in the technical sense; we must combine, in order to get the proper price-level figure, the prices and quantities of all goods which compete for the sum that actually buys in a given sphere and in a suitable time interval, and nothing else.

It appears from this statement that Schumpeter is less concerned with the primary importance of the price level of consumers' goods than he is that the more or less distinct categories of price levels are differentiated so that the resulting measures will relate to clearly distinguishable parts of the flow of expenditure. There is a further defense for the choice of an index of the prices of consumers' goods and services, that being that, *under stationary equilibrium*, the prices of such goods will be equal to the sum of the prices of the productive factors used in their production. Such a measure therefore has much to recommend it where the analysis of prices is to proceed from a theoretical position rather than a statistical analysis. Still another reason that has been advanced for using a consumption index is that consumer purchasing power is conceived by such advocates as the central force in bringing about fluctuations in economic activity. Since one element in such purchasing power is the price level at which consumption goods are sold, it is manifestly important to such a theory that variations in this price level be related to monetary flows.

In summary, the price level of consumption goods is highly important to the analysis of prices. However, it should not be regarded

as a substitute for more comprehensive measurements in which adequate emphasis is given to variations of other price levels whose variations are of importance even if the problem is solely one of accounting for changes in consumer goods prices.

**Plural price levels.** The development of the theory of money on the basis of a study of a number of price levels comes about naturally from the fact that all prices are not equally affected by changes in the demand for and supply of money. This difference in the behavior of prices is due, not only to the reasons already advanced above in this chapter, but it also results from the fact that an injection of new money, for example, is not suddenly diffused throughout all parts of the system. It comes into existence in a specific balance owned by an individual or firm or governmental unit, and is then spent in such a way as to affect, initially, some particular component of the price system.

When such injections of new balances are made by banks for the accommodation of business firms, the resulting flow of expenditures may affect the price level of wages, of working capital, or of fixed capital, in the first instance. Thus such new balances may require analysis of the differential movements of these goods and services compared with the finished product which they were purchased to construct.

A similar problem would arise if the new balances were created for the account of the government to be used to finance increased consumption of goods during a depression. Somewhat different is the case where new balances result from an inflow of gold from other countries. The plural price levels involved in this case will be the prices of the commodities in each country which constitute its items of foreign trade as well as the securities market. Thus there can be a great variety of price levels, any group of which may be significant, depending upon the particular problem to be analyzed.

Although it is by no means true of all students who approach problems of money from the standpoint of plural price levels, there are some who argue that the concept of a general average of prices is only a rudimentary step in comprehending the behavior of money and that any real progress must be initiated from an analysis of differential price movements. Most modern refinements of monetary analysis recognize the necessity for such a distinction and even

though their theories differ sharply, such students as Keynes,<sup>3</sup> Hayek,<sup>4</sup> and Marget,<sup>5</sup> as well as Schumpeter quoted above, agree that such a differentiation is highly important to progress in the analysis of the behavior of money.

**Method of computing an index.** Once a decision has been made concerning the prices that are to be included in the index, two other problems remain: (1) how shall the prices be combined into one single expression of change, and (2) how shall the relative importance of the items be determined? The latter, usually referred to as the problem of weighting, is frequently resolved by giving each commodity a weight which is determined by the amount produced or consumed in a given year. On other occasions, weights are assigned on the basis of the percentage of the national income which is received from the production of each commodity. These weights, once determined, are not changed except at infrequent intervals. When they are changed, the index must be completely recomputed. The reason for this recalculation is that if the weights were changed each time the index is computed, an additional element of change would be introduced, with the result that variations of the index might be due either to changes in the value of money or to changes in the weights used.

It is not necessary for our purposes to go deeply into the manner in which index numbers are computed, or the wide variety of formulas that might conceivably be employed for this purpose. It will be sufficient to examine one typical method currently used in these computations. Suppose we assume that the prices and weights given in the following table exist:

	Price	1926 weights	Price x weight	Price	1938 weights	Price x weight
Copper (lb)	\$0.16	2,000	320	\$0.09	2,000	180
Wheat (bu)	1.14	600	684	0.84	600	504
Corn (bu)	0.90	1,500	1,350	0.60	1,500	900
Hogs (cwt)	8:50	600	5,100	8.65	600	5,100
			<u>7,454</u>			<u>6,774</u>

<sup>3</sup> Keynes, J. M., *A Treatise on Money*, New York: Harcourt, Brace and Co., 1930, Vol. I, Chap. 5.

<sup>4</sup> Hayek, F. A., *Prices and Production*, New York: The Macmillan Co., 1932, Chap. I.

<sup>5</sup> Marget, A. W., *A Theory of Prices*, New York: Prentice-Hall, Inc., 1938, Vol. I, Chap. 17.

If we divide the sum of 1926 prices times weights into the sum of 1938 prices times weights, multiply by 100 and subtract 100, we shall determine the percentage of change in the totals for the intervening period, for example, 7,454 divided into 6,774 equals 0.908 or a decline of 9.2 per cent between the two dates. This method of computation is known as the weighted 'aggregate index and is used by such well-known statistical organizations as the United States Bureau of Labor Statistics.

The list of commodities which has been used in this table is clearly inadequate to serve as a measure of the value of money, regardless of the point of view adopted. The indexes which are published consist of various numbers of price quotations ranging from 15, in the case of the indexes which are computed daily such as the Moody index, to over 900 in the monthly index of the United States Bureau of Labor Statistics.

Published indexes. Two examples of indexes may afford a clearer idea of the process by which indexes are derived. An example is the index formerly made available monthly by the Federal Reserve Bank of New York (see Table 35. The index was discontinued in 1939.) An examination of the constituent elements and weights reveals the fact that this index was computed on the theory that the best selection of items is accomplished by giving representation to all the parts of the price system, rather than by basing the choice upon commodity prices alone.

**TABLE 35**  
**COMPONENTS AND WEIGHTS OF THE INDEX**  
**OF GENERAL PRICES, FEDERAL RESERVE**  
**BANK OF NEW YORK**

Component	Weight
Industrial prices—nonagricultural wholesale prices	10
Farm prices at the farm	10
Retail food—15 cities	10
Rent—32 cities	5
Clothing, fuel, furnishings, etc.—retail	10
Freight—transportation costs	5
Realty value—urban and farm	10
Securities—bonds and stocks	10
Equipment and machinery	10
Hardware prices	3
Wages—composite of Federal Reserve Bank of New York	15
Automobile prices	2
<b>TOTAL</b>	<b>100</b>

This index unquestionably is useful in the study of money, for it reveals all the items that might conceivably use the circulating money. There have been periods when the general level of prices advanced at the same time that wholesale commodity prices were falling.

A second type of selection is that which is made by the United States Bureau of Labor Statistics. The technique employed by this bureau is to compute indexes of the prices of ten separate groups and then to combine the resulting groups of indexes into one single measure of the movement of prices. The eleven resulting indexes, which have been published separately, are: (1) farm products, (2) foods, (3) hides and leather products, (4) fuel and lighting, (5) textile products, (6) metals and metal products, (7) building materials, (8) chemicals and drugs, (9) house furnishing goods, (10) miscellaneous, and (11) all commodities. This classification represents most of the components of the wholesale markets, but it will be observed that the New York Federal Reserve Bank index included security prices, real estate values, rent, machinery, and wages, which are included only by implication or indirectly in the Bureau of Labor index.

The question might arise as to which of these, or the many other indexes that might have been selected as examples of index construction, is the best. The answer cannot be final because the best index is best only in terms of the use to which it is put. If an index which will readily reflect changes in prices in the business cycle is desired, the most appropriate is one containing a few items that have been chosen for their responsiveness to business fluctuations. The Harvard Bureau of Economic Research computed such an index with this purpose in mind. If the purpose is to measure changes in the value of money, defenders will be found for both of the indexes which have been described above, for each of them is appropriate to certain kinds of explanations of price changes. Other economists, for example J. M. Keynes, have favored for this purpose the use of an index number based upon the prices of consumers' goods.

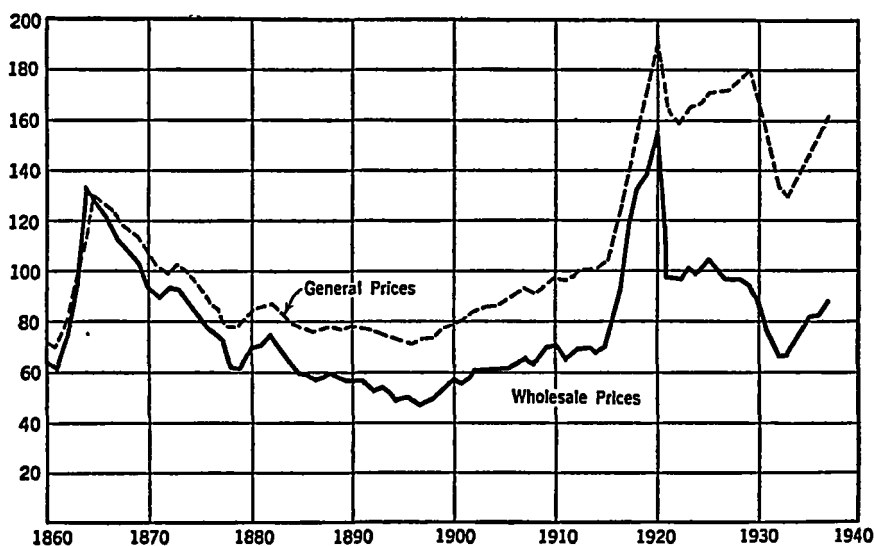
From the standpoint of those who would have the level of prices controlled by central bank or government action, a logical selection would include many different types of indexes. By this method it is possible to determine more clearly the particular elements in our

system of prices which are moving most rapidly, possibly as the result of inflationary forces. Control under such conditions would have to be directed toward the specific point of inflation in contrast to the action which would be undertaken in case the entire price structure were moving in one direction or another. There is a growing number of students, especially among Continental writers, who believe that the only way that price changes can be studied is by use of indexes of the subsidiary levels of prices, that is, the groups of prices that result from classifications based on either economic function, sensitivity, or some other differentiation. To the student who is attempting to draw his own conclusions concerning price changes and their probable future course, this method seems most likely to produce useful results. It should be remembered that most of our problems concerning the value of money grow out of the fact that changes in this value do not affect all groups in the same way.

The value of using more than one index in the study of price behavior is indicated by Chart 12, which contains a comparison of the

Chart 12

PRICE INDEXES 1860-1937



two indexes described above. On the basis of the United States Bureau of Labor index, prices fell in 1933 to the level that had prevailed during the prewar years; but on the basis of the New York

Federal Reserve Bank index, prices were still about 30 per cent above the prewar level. It is apparent that the former index gives greater weight than the latter to those commodities that are flexible in price. The inclusion in the bank index of such items as rent and transportation costs makes it more inflexible to changes in the value of money, while the inclusion of wages tends to give it an upward movement not shared by the Bureau of Labor Statistics index. Moreover, the difference in the movement of the two indexes between 1922 and 1929 was caused mainly by the use of security and real estate values in the bank index. It should be clear, therefore, that the use of the two indexes rather than either one alone gives a more accurate representation of changes during these years.

Limitations on price measurements by means of index numbers. In view of the fact that our theory of money must explain changes in the value of money, limitations in our measurements of these changes must be clearly understood. A theory can be strictly logical and adequate and still fail to explain all the variations which occur in the value of money as that value is reflected in a series of indexes. It has been shown in the preceding material that attempts at measurement are as yet not completely satisfactory; there are also other reasons which limit efforts in this direction, and therefore vitiate attempts to explain completely the behavior of money as it affects the level of prices.

One of these limitations arises from the fact that these measurements take place in a dynamic world in which the relative importance of commodities and services is constantly changing. Consequently, an index that measures fairly comprehensively the prices of today will be out of date by an indefinite amount in measuring the prices of greatest significance five years hence. For example, the extent to which steel can be reprocessed into higher and higher types of goods today makes its price much more significant than it was in 1900. An opposite trend can be noted in the decline in the comparative importance of agricultural commodities where the more rapid growth of other industries has decreased the proportion of our national income which we secure from farming. In the future, the increased use of agricultural products as industrial raw materials may reverse this trend, but until it does so, some of our indexes will be less and less representative of our price system.



Finally, no particular intercorrelation exists between the various parts of the price system, which can be considered "right" or "normal" in an economic sense. Suppose that during the period from 1929 to 1937, the prices of farm products declined 50 per cent, industrial prices declined 25 per cent, and the prices of real estate and securities declined 70 per cent. It cannot be concluded from this alone that some of the prices have declined too much and others too little, for we have no standard by which to draw such a conclusion. The results might have been entirely different if our measurements had been applied to 1926 or 1935 or some other date as a base. Other possible explanations might be that certain lines have experienced a higher rate of technological advance and that, as a consequence, their prices should have fallen more or that large surpluses existed in certain industries at the beginning of the period and their liquidation was a major factor in the declines that followed.

**Conclusions.** It has been shown in this chapter: (1) that price changes have unfavorable effects upon the efficiency of the economic system, both in the realms of production and distribution of income, introducing a fortuitous element into both which is not consistent with a system such as our present-day economy; (2) that numerous methods have been proposed by which changes in the price level might be appraised, each of these methods having its value in understanding the events which accompany a movement of the general level of prices; (3) that each of the proposed methods of selecting commodities to be included in an index is appropriate only to the task which is undertaken and that the conception of this task is determined in major part by one's theory concerning the reasons for price changes; and (4) that it is impossible for one to expect a theory of money value to explain all the movements of an index of prices, for these indexes may exhibit changes that are a result of faulty statistical techniques.

### *STUDY QUESTIONS*

1. Using 1926 as 100, the Bureau of Labor Statistics has computed the following annual and monthly indexes for commodity prices. Summarize the factors with respect to each group which might account for its having risen more or less than the average.

	1941	1944	Dec. 1946	Feb. 1948
All commodities	87.3	104.0	140.9	159.2
Farm products	82.4	123.3	168.1	182.8
Foods	82.7	104.9	160.1	170.5
Hides and leather products	108.3	116.7	176.7	188.5
Textile products	84.8	98.4	134.7	146.2
Fuel and lighting materials	76.2	83.0	96.1	131.7
Metals and metal products	99.4	103.8	134.7	155.6
Building materials	103.2	115.5	157.8	192.1
Chemicals and allied products	84.8	95.2	125.7	135.3
House furnishings	94.3	104.3	120.2	143.7
Miscellaneous	82.0	93.6	108.9	119.0

2. Suppose a man lends \$5,000 at 6 per cent simple interest in 1941 and is repaid with accumulated interest in December 1947. The prices of commodities rose from 87.3 in 1941 to 159.2 in February 1948. Has his command over goods increased or decreased?
3. "Fluctuating price levels may lead to economic production by firms which are not the most efficient." Do you agree? Why? Why not?
4. "A stable price level prevents people with fixed incomes from sharing in the rise of national income." Comment on this statement.
5. Why are the relative movements of groups of prices considered so important in the study of money?
6. Can movements of the price level lead to the failure of the more efficient firms and at the same time allow the less efficient firms to continue operating? What definition of efficiency is involved in this question?

# CHAPTER

## 16

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### THE VALUE OF MONEY: TRANSACTIONS APPROACH

**Introduction.** The behavior of money in a highly specialized economy is an extremely complex problem of analysis. Even when societies were much simpler than they are today, there was much thought given to the subject with results that still form the background of modern studies. In fact, contemporary analyses are, for the most part, refinements of the cruder statements of earlier studies. Since the value of money has provoked so much study and penetrating analysis, it is logical that the various aspects of its behavior should have been emphasized by individual students.

In the present and the succeeding two chapters, three different approaches to the value of money will be presented. It is of primary importance to realize that these separate approaches are not contradictory and competitive explanations of the value of money. Rather, each throws a strong emphasis upon one or several aspects of the problem, and they are therefore complementary. Certain monetary problems can be more effectively analyzed by the use of one type of analysis; other problems yield more readily to a different type.

These three ways of observing the behavior of money and its influence upon the economic system have been designated the transactions approach, the cash balance approach, and the income and expenditure approach. It can be seen from these designations that the first is primarily concerned with the use of money in effecting purchases and sales of goods and services; the second, while not

ignoring these facts, emphasizes the motives which prompt individuals and firms to hold the cash balances they do hold, and then relates the balances held to the outlays made by using them; the income-expenditure approach seeks to throw light upon the influence of money upon the production of income. This list must not be considered exhaustive for there are still other ways in which attempts have been made to deal with these problems. However, the theories discussed here are those around which most contemporary discussions are centered.

### THE EQUATION OF EXCHANGE

Examination of the theory of the value of money from the viewpoint of transactions proceeds from the presentation of a formula showing the relation of money, prices, and transactions. There are a variety of formulas in use for this purpose, the most common being  $MV + M'V' = PT$ , the formula popularized by Irving Fisher. In general this formula means that the average amount of money ( $M$ ) in circulation in a period of time multiplied by the number of times it is used ( $V$ ) to purchase goods and services, plus the average amount of bank balances held ( $M'$ ) multiplied by the number of times this amount is used ( $V'$ ) will equal the value of the goods and services purchased, i.e., the average price of goods times the quantity bought. It is apparent that such a statement establishes an identity which must be true as the terms are defined.

The value of such an identity is that it separates from a mass of phenomena a few variables that are considered most significant for analysis of prices, and states them in a way that facilitates their use in analysis. Students using this approach insist that such a formulation does not exhaust the list of factors influencing the value of money and that, for further progress, one must look behind the equation to deeper forces in the institutional organization and in human behavior for the fundamental forces that operate to establish the value of money.

**Definition of terms in the equation of exchange.** As a first step in understanding this method of analyzing the causes of price changes, it is necessary first to define the terms of the equation. We may then proceed to an examination of the interrelationships existing among

the individual items and of the forces back of the equation that are influential in changing these items.

The term  $M$  is defined as the average amount of currency in circulation in the period for which price changes are to be examined. Money in circulation does not include currency in the hands of the money-issuing authorities nor money in the banks. The first of these exclusions should be apparent; the second is due to the fact that money held by banks is a *necessary* reserve against deposits. Since bank deposits are included under  $M'$ , the inclusion of cash held by banks would involve double counting.

$V$  is defined as the exchange velocity of money or the number of times the money supply is exchanged in a period to pay for goods and services. Strictly speaking, exchanges of money in the discharge of debts created in a previous period should not be included since these exchanges cannot be considered as an effective force in the establishment of a ratio between goods and money in the current period. The same qualification applies to  $T$ , discussed below, since a part of the current transactions are negotiated on mercantile credit and are not exchanges against money in the current period. This qualification in the definition of  $V$  and  $V'$  and  $T$  is not important in a period when the goods and services exchanged for debt in the current period is equal to the debt discharged.

The asymmetry of the equation when the volume of old debts cancelled exceeds or is less than volume of new debts created in a period may be corrected by either of two methods, as Marget has shown.<sup>1</sup> First, a term may be added to the left side of the equation to represent payments of debts, and a term may be added to the right side to represent transfers of goods and services by the creation of new debts. Second,  $MV$  and  $PT$  may be so defined as to include only payments for goods and services transferred in the current period by means of money.

$M'$  is defined as the average quantity of bank deposits held by the public during the period. There has been some debate over whether this term should include time and savings deposits or whether it should be confined to demand deposits alone. The answer turns, in part, upon whether prevailing banking regulations permit with-

<sup>1</sup> Marget, A. W., *The Theory of Prices*, New York: Prentice-Hall, Vol. I, pp. 55-68.

drawals from time and savings deposits by means of checks or whether such accounts must first be drawn against to increase demand deposits before being used to buy goods and services. To the extent that customers of banks are permitted to draw checks against such accounts, and in many cases they are permitted to do so at some cost or penalty, time and savings deposits do serve in the same way as demand deposits.

Still another reason for the inclusion of time and savings deposits as a part of  $M'$  is the fact that the public can convert such deposits into demand accounts without reference to any other agency or to the credit policy of the banker. To be sure, if such transfers occur at a time when the banks' excess reserves are small, it may cause loans to be called or investments to be sold in order to bring the volume of demand deposits down to the volume prevailing before the transfer was made. But this situation does not alter the fact that, within any period, transfers between these accounts will furnish a part of the medium of exchange which is used to make purchases.

The definition of  $V'$  is the same as the definition of  $V$  except that the former refers to the quantity of  $M'$  rather than  $M$ . There is actually very little point in making the distinction between these two types of velocity since no major point of theory is made to hinge upon the differences between the two. The continuously increasing importance of bank credit compared to currency has forced the attention of students to focus to a marked degree upon the analysis of the  $M'V'$  part of the equation. Thus, it is frequently found desirable to write the monetary side of the equation as  $(M + M')V$  or as simply  $MV$ .

In defining the terms on the right side of the equation, it is desirable to recall the discussion of the previous chapter concerning the selection of prices to be included in the general measure of changes in the value of money. There it was shown that among the several problems upon which monetary theory seeks to throw light, one is the aggregate prices of goods compared to money. Another problem discussed there was the fact that money flows in several channels that are interdependent but more or less separate. Thus the term  $P$  may be taken to refer either to the aggregate prices of all goods, services, and claims transferred for money during a period, or we may redefine the other terms of the equation so as to limit the

money flow under consideration to a relation to one of the several subsidiary price levels.

The term  $T$  includes the total quantity of goods, services, and claims transferred for money during a period and is so defined that, when multiplied by the average price, the product equals the sum of the money exchanged.

Definition of terms in applying the equation to plural price levels. As was indicated in the previous discussion, such a definition of terms is applicable only when the problem under consideration relates to the general price level. If the subsidiary components of the general price level were the subject of investigation, the same general definitions would be used but amended to segregate (1) the money flow applicable to the particular subsidiary price level under examination, and (2) the pertinent transactions in goods and services. For example, if the problem involved the study of prices of producers' goods,  $T$  would be defined to include only transactions in such goods while  $MV$  would include only money employed in transferring producers' goods. Thus it is simple in theory to amend the formula to suit the problem at hand; however, it would be impossible with available statistical data to provide verification of this solution.

Determinants of the size of terms in the transactions equation. The central problem of a theory of money and credit is to show the relation between changes in the various terms of the equation employed. The proponents of the transactions equation in earlier discussions of the subject sought, by deductive reasoning and by resort to facts, to prove that certain of the terms were either fixed by the stable paying habits of the people ( $V$ ) or by the general productivity of the country ( $T$ ), and hence would not be affected by changes in  $M$  and  $M'$ . Such an approach then proceeded to demonstrate that changes in  $M$  and  $M'$  were the primary and causal factors and that  $P$  was largely passive. More recently, students making use of this equation have considered all the terms as representing groups of forces which, in any given period, might have major influence in bringing about changes in the other terms and a balance in the equation at a new level. If the conditions under which the equation is applied are divided into long-term and short-term periods, it is possible to grant that certain of the elements of the equa-

tion may be more influential than others. The present discussion will proceed on the view that all the terms are of substantial importance since any one of them may be the prime factor in a given historical period. The next problem then is the examination of the forces behind variations in each of the terms or groups of terms.

Determinants of the size of  $M$  and  $M'$ . It is convenient to consider  $M$  and  $M'$  as a single item when studying the forces that establish the magnitude of the total means of payment. The amount of  $M$  compared to  $M'$  which the public uses in making payments is largely a matter of its convenience, although their choice may have significant effects upon the size of bank reserves.

Limits relating to gold. Although no country in the world today has organized its currency on a full gold standard, gold still acts as a limiting factor in controlling the supply of money, under many circumstances, since it still serves as either bank reserves or, wherever available, as a means of payment. The first limit imposed by gold is the existing stock of it. This stock is owned in part by banks and individuals who use it as reserves and in part by individuals in the form of jewelry, watch cases, fillings for teeth, etc. Only the stock of monetary gold has any significance, at a given time, in the study of money. Over a period of time, however, it is found that the nonmonetary uses of gold constitute a highly variable component of demand. During periods of high income, large quantities of the luxury goods containing gold are purchased; during periods of low income, considerable quantities of this gold return to the market where the gold ornaments are sold to sustain consumption. Thus the existing stock of gold available for monetary uses is alternately augmented and reduced by changes in nonmonetary demand.

Current additions to the stock of gold are related to the current price of gold and the level of mining costs. The first of these is exemplified by the great increase in gold mining which resulted from the United States Treasury's buying price being raised from \$20.67 per ounce to \$35.00 per ounce. Since this change was not immediately accompanied by a proportionate rise in mining costs, substantial profits could be made in ores in which it was not previously economical to operate.

Except under the conditions noted in the previous paragraph where a sudden increase in price takes place, the costs of mining



gold will be closely coordinated with selling price. Nevertheless, substantial changes in the current output of gold will result from changes in mining costs. These changes may result either from changes in the general level of prices and wages or from improvements in the techniques of mining and refining gold. It should be noted that the only fall in prices that will affect gold production is a fall in the prices which are included in gold-mining costs. Declines of prices in the central markets of the world may require a number of months or perhaps a year to be reflected in these costs.

**Fiat money and the supply of money.** A second determinant of the size of  $M$  and  $M'$  is the extent to which the money supply consists of currency issues in excess of the available metallic reserves. These issues have at times formed a part of the circulation of many countries and have often led to violent changes of prices.

A number of different conditions have given rise to issues of fiat money. For many years, a fixed amount of the English currency circulated without metallic reserves. This amount was set at the minimum below which it was believed the circulation would never decline, hence no reserves were required to guarantee redemption. More frequently, fiat money has been issued by governments as a means of paying the costs of wars. Since the effect of such issues was less directly and immediately felt by the public than taxes would have been, it appeared temporarily to be the easier method of financing expenditures. A third occasion for such issues occurs whenever a government, as a part of a "full employment" policy, seeks to raise the level of the national income by increasing its own expenditures through the use of fiat money. In 1933, the Congress of the United States gave the President power to issue \$3 billion in greenbacks for the immediate purpose of raising prices and the ultimate purpose of raising the national income. The second and third conditions noted above also have been the occasions for substantial increases of bank credit or  $M'$ , and for purposes of present discussion are to be viewed as the equivalent of increased note issues. In the United States in the past 15 years, the chief increases in the means of payment have been the result of government spending either to combat depression or for war expenditures.

**Limits relating to bank credit.** Three major groups of forces operate to establish the volume of money created by the banking system:

(1) the general force of public regulation embodied in reserve requirements, the eligibility of paper for bank accommodation, limitations upon bank loans and investments, banking examination procedures, etc.; (2) the state of expectations of bankers, whether they be members of regulating agencies or managers of individual banks; and (3) the level of the demand for bank credit accommodation.

It has already been shown in the preceding chapters that the banking business is conducted under conditions of extensive regulations, hence it is necessary here only to summarize the effects of these regulations upon the magnitude of  $M$  and  $M'$ . Certain of these regulations limit the extension of credit by the individual banker because the transaction to be financed is considered unsound, or because certain classes of transactions are not considered appropriate for bank accommodation. An example is the speculative loan. Other regulations specifying the type and maturity of security eligible for bank purchase and the effect of bank examination procedures upon bank loan policy further limit the bankers' ability to increase the quantity of credit. Most obvious of all such regulations is the power of the Board of Governors to establish, within certain limits, the level of reserves required to be held against time and demand deposits.

Within the framework of prevailing regulation, the banker has wide latitude for exercise of judgment in selection of credit risks, whether they be loans or securities. He may choose to operate close to the limits imposed by legal reserve requirements or he may choose to forego profits and the risks of losses and maintain a highly liquid position. If the banking community takes an optimistic view of the credit situation, it will lend credit readily to worthy applicants. If the volume of such applications is not sufficiently large to exhaust the bankers' willingness and ability to lend, the bankers will enter the securities markets and bid for the available supply of satisfactory credit instruments. By these two procedures, loans and investments are increased, and so is the  $M'$  factor in the equation. There are limits upon the ability of the banks to increase credit in this manner, however.

If the bankers supplement the public's supply of balances by purchasing investments when the public has a relatively inelastic demand for balances, the result may be a fall in the volume of loans

outstanding at the banks. Or the public may refuse to exchange securities now held for balances at banks except at a sharply advancing scale of prices or falling interest rate. But if the public's demand for balances is relatively elastic, the bankers may augment their demand deposits substantially without a major effect upon the volume of their loans or the prices of securities.

To state that bankers' expectations regarding business conditions affect their willingness to lend and invest does not explain why such expectations vary from time to time except as changes in business conditions cause them to change. Angell<sup>2</sup> explains general changes in business expectation on the basis of changes in income in the previous income period. Such an explanation does little to advance the analysis since this reasoning bases such changes upon the business cycle and hence fails to establish expectations as an independent factor.

An approach to the understanding of the role of expectations in influencing the volume of credit created by bankers may be obtained by reference to the nature of the banks' assets. Some of these assets consist of cash and balances with other banks; others are in the form of short-term paper of a highly liquid type; still others are of a long-term character. The banker may therefore vary his investment policy so as to alter the composition of his assets as his expectations change. If the near-term view of business and credit conditions is obscure or threatening, he will prefer assets of a shorter maturity, while if he takes an optimistic view of future conditions he will prefer longer maturities. This is on the assumption that the long-term securities bear a higher rate of return than the short-term instruments. Hence, the banker will not only vary the quantity of assets in consonance with changes in expectations; he will also change the maturity of his assets.

Without arguing the independence of expectations in general as a factor in business cycle analysis, it may be conceded that changes in expectations about the future course of prices, costs, profits, taxes, and levels of output are a substantial influence in effecting the timing and the amplitude of business fluctuations. The banker is in a particularly strategic position to translate his expectations into in-

<sup>2</sup> Angell, J. M., *Investment and Business Cycles*, copyright 1941, by McGraw-Hill Book Co., Inc.

creases in the money supply and thereby to bring about the conditions which he anticipates. The control over the community's balances which he exercises, together with his operation of the credit-creating machinery, give his decisions greater significance than those of almost any other single group in the economic system in determining the supply of money.

The third of the factors influencing the level of  $M'$  is the public's demand for credit accommodation and for a circulating medium. The level of the demand for credit is influenced by the relation between the banks' lending rates and the prospective rate of profit to be obtained from the use of the funds. The degree of importance to be attached to a divergence between these two rates has been the subject of long debate in monetary analysis. Without developing the lines of argument which have characterized this debate, it may be conceded that some divergence must exist if the borrower is assumed to be rational, although if his estimation of the risks involved is high, a substantial divergence between the two rates may be required in order to induce him to increase his indebtedness to the banks. On the other hand, his *realized* profit may be so much less than his *prospective* profit that the transaction yields only a loss. Nevertheless, he was induced to borrow the funds as a result of his *anticipation* of a profit.

Another aspect of the public's influence upon the magnitude of  $M$  and  $M'$  is the state of its expectations. These expectations relate to the desirability of holding cash resources compared to the desirability of holding real resources or claims. To some extent the public's decision on this division of assets is fixed by the paying habits of the community as a whole, as will be explained below. But the public has considerable latitude for exercising judgment in choosing between money, securities, commodities, and real estate.

If the current supply of money exceeds the public's demand for money, the public may reduce the amount it holds by retiring its debt to the banks or by buying securities from the banks, thereby cancelling demand deposits.

Determinants of  $V$  and  $V'$ . The major factors which establish the level of  $V$  and  $V'$ , and which lead to changes in their level, may be grouped into short-term and long-term forces. The long-term forces

are those producing changes over a period longer than the business cycle, while short-term forces are those which cause the velocity of money and credit to respond to seasonal and cyclical influences.

The long-run forces of major importance are the state of development of the credit and financial institutions and the paying habits of the economy. If the economy possesses highly developed exchanges, speedy means of communication and transportation, and financial institutions with a record of stability, the volume of money which is held in boards will be low, so that as income is received, it will be promptly spent or invested. On the other hand, if the state of development of these institutions makes investment difficult or risky, money will circulate more slowly.

The paying habits of the society are very influential in setting the velocity of money over the long run because they determine the relation of balances held to expenditures made from those balances. Suppose two men to be receiving monthly incomes of \$200, one of them being paid on a monthly basis and the other on a semimonthly basis. If both of the men dispose of their entire income either by spending or investing it, and do so at an even daily rate, the one who is compensated on a monthly basis will hold an average daily balance of \$100 while the other will hold an average daily balance of \$50. The individual who is paid monthly will spend and invest \$200 from an average balance of \$100 and his balance will have a velocity of two during the month. The second individual spends and invests \$100 from an average balance of \$50 and his balance has a velocity of two for the half-month or four for the month since he also disposes of \$200 in this period using an average balance of \$50. Thus the frequency of the payment period will influence the velocity of the balances. Such payment periods once established are seldom changed. Most commercial credit is settled on a monthly basis; settlements in the New York Stock Exchange Clearing Corporation are on a 2-day basis; taxes are withheld from payrolls and remitted to the Treasury at quarterly intervals; payrolls are usually on a weekly, semimonthly, or monthly basis, and are not changed very often. Such settlement periods are established on the basis of the greatest convenience and minimum cost, and are therefore likely to remain stable over long periods of time.

The public's habits in making payments from its balances will also

affect velocity. If instead of assuming an even rate of expenditure, it is assumed that certain payments such as rent, light, fuel, and insurance are paid early in the income period and that the remainder is distributed at an even daily rate, a smaller average balance will be carried and a higher velocity will result. Considerations similar to these will also hold for business deposits, although additions to and disbursements from such balances are more frequent; hence a higher velocity probably results.

Short-run changes in velocity are closely related to the state of business and the public's expectations about the future course of prices, including interest rates and incomes. A general rise in business activity is often accompanied by a rise in the exchange velocity of money. This condition may be explained on two grounds. First, certain components of the total money supply whose velocity over the previous depression had been zero, will be used to purchase consumption goods and investments; thus the exchange velocity of total balances is raised by an increased velocity in parts of the total which had previously been inactive. A second cause of short-run changes in velocity is the rate of price changes. During periods when prices are increasing or decreasing with greater than average speed, balances are turned over more rapidly than usual as traders anticipate further changes. During periods of declining prices, further activity is contributed by weakening of accounts holding commodities and securities on credit. As the equity of the holder is dissipated by falling prices, the commodities and securities are offered in the market even though the holder may have preferred to continue his commitment had he been financially able to do so. Short-term changes in velocity are most spectacular in raising the level of prices during periods of hyperinflation such as characterized the currency experience of Germany after World War I. The rising tide of prices was swelled by the anxiety of each holder to exchange his money for commodities before it could lose its value. Exchange velocity consequently rose to extremely high levels.

Determinants of the size of  $T$ . The volume of trade in an economy is related to such long-run factors as the richness of the natural resources, the skill and energy of the population, the quantity of capital, the state of technological knowledge, and the stage of the business cycle, all of which relate to the aggregate income produced.

However, in any given time period, particularly a period less than a business cycle, the aggregate output will not necessarily be offered for sale. Thus, inventory accumulations and liquidations will affect the actual sales made for money so that final output must be corrected for inventory changes to arrive at a usable concept of the volume of trade.

A second circumstance establishing the volume of trade is the degree of industrial integration in the economy. The transactions approach, in considering each transfer of money or balances, must include in the volume of trade not only transfers of final output but also the transfers between firms. If a final product, such as an automobile, is made by many firms each making one part which is assembled by another firm, the volume of transactions would be greater than if all of the individual firms were integrated into a single firm for then no money would be involved in the intrafirm transfer of intermediate products. The influence of industrial differentiation upon the volume of trade is comparatively long-term since the vertical integration of firms in sufficient volume to effect the volume of trade requires considerable time.

Probably the most important single short-run influence upon the volume of trade is the business cycle. Certain writers have argued that such cycles are predominantly a function of monetary forces and are therefore to be explained in terms of such factors as the volume of  $M$ ,  $M^1$ ,  $V$ ,  $V^1$  and the rate of interest. While admitting the importance in some cycles and the primary importance in others of these forces, it is doubtful if all or even a majority of cycles can be so analyzed. The paramount significance of other dynamic elements such as inventions, shifts of demand, the flow of income, etc. lend support to this statement.

## RELATION OF VELOCITY OF CIRCULATION OF MONEY AND OF GOODS

It is sometimes argued that the velocity of money and credit cannot have any influence on the level of prices since any change in velocity must be accompanied by a change of equal magnitude in the size of  $T$ . Thus, according to this argument, if the turnover of money increases, the volume of things exchanged for money must

increase. Marget<sup>3</sup> has examined this problem meticulously and has shown it to be unsound on a number of grounds. The most obvious weakness of the argument is the fact that while  $T$  may increase simultaneously with  $V$  and  $V^1$  in a depression period, at the peak of the cycle increases of velocity are most likely to be reflected in a response of prices.

### INTERRELATIONS OF THE TERMS IN THE TRANSACTIONS EQUATION

The above discussion of the forces which establish the size of the terms in the transactions equations has shown these terms to be related to factors which are more or less independent for each term. This procedure was adopted for purely expositional reasons, for these variables are in fact closely related as is shown by their combination in an equation. The manner in which their interrelationships will work out in practice will be determined by the nature and intensity of the force which produces a change in one of the variables. Two hypothetical cases will illustrate the way in which such relationships may work out.

As a first case, suppose a substantial addition to be made to the supply of bank balances ( $M'$ ) through sale of government bonds to the banks. If the government spends these balances in a way that improves the general state of expectations and the profitability of investment, it is likely that the velocity of money will be increased, and if a low level of employment prevails, then the volume of trade will increase. Under conditions of high employment, the higher volume of balances and the higher velocity may lead to higher prices.

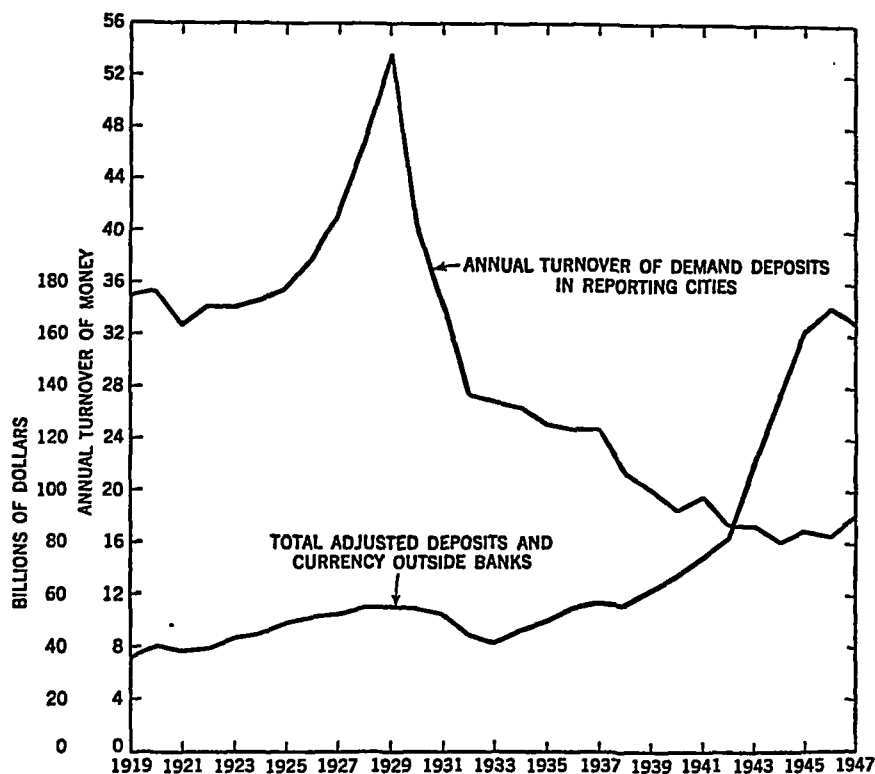
Or suppose that the discovery of new resources and a higher volume of capital lead to an increase in the volume of trade. If these changes do not induce an increase in the quantity of  $M$  or  $V$ , the price level will decline. If these changes are of a kind that leads to large scale investment, the velocity and the quantity of money will be increased, and the price level may remain unchanged or may even rise.

<sup>3</sup> Marget, A. W., "The Definition of the Concept of a 'Velocity of Circulation of Goods,'" Part I, *Economica*, Nov. 1932, pp. 431-456.



Another kind of interrelationship is suggested by Chart 13. The two lines shown are not strictly comparable, since the curve showing money supply includes the entire supply, while the turnover data refer only to demand deposits in selected cities. Even with this limitation it seems clear that, during the years from 1933 to 1946, a rising supply of money did not have the effect upon the demand for

Chart 13 VOLUME AND VELOCITY OF CERTAIN COMPONENTS OF THE MONEY SUPPLY



goods that is usually associated with this condition, or rather, the increase was less than might have been expected due to a fall in the velocity of money. The chart also suggests that a rising supply of money may have little effect upon employment and production if the public chooses to add the new money to its idle balances. There is little indication, as has been contended by some students, that velocity rises and falls with the stages of the business cycle without exception.

### STUDY QUESTIONS

1. What is the function of an equation such as  $MV = PT$  in the study of the theory of money?
2. Account for the fact that there are several "approaches" to the theory of money.
3. Argue that each of the following would or would not affect a specific term in the transactions equation:
  - a. Technological advances
  - b. Gold discoveries
  - c. A fall of interest rates compared to the profit rate
  - d. An increase of population
  - e. Industrial vertical mergers
  - f. An increase in the public's desire for balances
  - g. Rising security prices
  - h. A reduction in the public debt
4. Will an increase in the rate of profit above the rate of interest invariably increase the quantity of  $M$  and  $M'$ ?
5. "Since there is a turnover of goods and services each time there is a turnover of money, changes in these factors cancel each other and neither has any effect on the level of prices." Comment on this statement.
6. "Since  $M$  and  $V$  are established by independent conditions, an increase of  $M$  will invariably increase the product  $MV$ ." Comment.
7. "If banks followed the real-bills or commercial loan theory of bank credit and limited all loans to 90 days, the annual velocity of money would be four." Comment on this statement.
8. If money has a higher velocity in England than in the United States, as an average over several years, does this fact indicate that business activity there is higher than in this country?
9. "The price level cannot change as long as the quantity  $MV$  is constant." Comment.
10. If money is hoarded, should it be counted as part of the circulating money?

# CHAPTER

## 17

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### THE VALUE OF MONEY: CASH BALANCE APPROACH

**Introduction.** The preceding chapter was prefaced with the statement that the three approaches to the value of money were to be viewed as complementary rather than as contradictory. Indeed, it would be possible to dispense with all of these approaches and to amalgamate their contributions to monetary theory into a single analysis, but to do so would involve loss of the emphasis which each of the approaches places upon particular aspects of society's behavior in using money. It is the special merit of the cash balance approach that it concentrates attention upon the decisions of economizing individuals in choosing to hold a given quantity of money balances. By reason of this emphasis, this approach throws important light upon problems of velocity, especially those problems relating to velocity which involve individual decisions in using money rather than institutional factors which affect the turnover of money. When one recognizes that money balances are in "motion" from one individual or firm to another only a very small fraction of the time, it becomes clear that an analysis is needed which will account for the motives for holding given amounts of money. A further advantage of this approach is that its terminology parallels that of general economic theory in being stated in terms of supply and demand, and hence the task of integrating monetary theory into the general body of economic doctrine is simplified.

## THE CASH BALANCE EQUATION

While there are a variety of cash balance equations proposed by monetary theorists, the most useful for comparison with the transactions equation is that used by D. H. Robertson,<sup>1</sup> who states his equation as follows:  $P = M/KT$  where the problem is to account for price changes and, by transposition of terms,  $M = KTP$ , where the problem involves the analysis of changes in the supply of and demand for money. In these equations,  $P$ ,  $M$ , and  $T$  have the same meaning as they had in the previous chapter. The new term  $K$  is defined as the proportion of  $PT$  which people wish to have enough money on hand to conduct. Two simple examples may clarify this statement. Suppose an individual to receive an annual income of \$2,400, all of which is used during the year to purchase consumers' goods, or capital goods, or claims. If an average balance of \$400 is maintained, then for this individual  $K$  is equal to  $\frac{1}{6}$ , and the individual is holding a command over goods equal to two months' purchases.

This example involved an individual who spent his *income* to purchase finished goods of one type or another. In order that the impression may not be gained that the equation refers only to final output, a second example may be stated. Suppose that a firm whose purchases of inventory for fabricating, payments to labor, and other outlays during a year are \$600,000 holds an average money balance of \$50,000. Then the value of  $K$  for this firm is  $\frac{1}{12}$ , and the firm holds balances equal to one month's requirements. It should be observed that the purchases of this firm are not the equivalent of net income, since income will be determined by the difference between total sales and total costs. Thus the equation as defined refers to transactions whether they are transactions in final output or middlemen's sales. It is possible to define the terms so as to relate money only to changes in final output, if this is desirable.

A further characteristic of the term  $K$  when the other terms in the equation are defined as above is that its reciprocal is equal to  $V$  (that is,  $V + V'$ ) of the transactions equation, so that  $V = 1/K$ . Proof of this relationship is established by the fact that if the public

<sup>1</sup> Robertson, D. H., *Money*, New York: Harcourt, Brace and Co., 1929, p. 195.

holds  $\frac{1}{6}$  of one year's purchases in money form, its money is turning over once every two months or six times each year. Thus, where  $K = \frac{1}{6}$ ,  $V = 1/(\frac{1}{6}) = 6$ . Since  $K$  and  $V$  are related in this manner, the forces which establish the size of  $V$ , as discussed in the previous chapter, will also determine the magnitude of  $K$ .

In general, the size of  $K$  is determined by the efforts of the members of the public to arrive at the amount of money balances which it is desirable to hold under various economic conditions. If income is received at relatively short intervals, lower balances will be necessary than if the intervals are long. If bank credit and commercial credit are readily available, smaller balances can safely be maintained than if such credit is not available or can be obtained only with difficulty. Similarly, if security and commodity prices are rising, the public will attempt to anticipate its requirements for goods by purchasing in advance of the rise. The public will also buy securities so as to obtain a speculative gain. In other words, the size of  $K$  is affected by exactly the same conditions which in the preceding chapter were stated to affect the size of  $V$ . The advantage of considering these decisions of the public as changes in  $K$  lies in the emphasis which the cash balance analysis has placed upon individual decisions in establishing the velocity of money. For purposes of illustration, a number of conditions may be assumed so as to facilitate the understanding of this approach.

## CHANGES IN THE SUPPLY OF MONEY

In examining the way in which the terms in the equation  $M = KPT$  are related, we may first assume an additional supply of money balances to be created, either by increased lending by banks, by bank purchase of additional investments, or by assuming the Treasury to print currency and to place it in circulation by using the new money to support government expenditures. Since  $M$  has been increased,  $P$ ,  $T$ , or  $K$  must change in order to maintain equilibrium in the equation. If the increase in money occurs during the contraction phase of a depression, the only result may be a rise in the size of  $K$ , meaning that the public is holding a greater command than before over its future transactions.

On the other hand, suppose the new money is added to the pub-

lic's balances at the bottom of a depression when the fall of security and commodity prices has been arrested. The public may then decide that its previous balances were adequate and attempt to release the new money. Since by assumption, the total supply of money has been increased, the public cannot succeed in changing the volume of balances. But by attempting to release the new money, the size of  $T$  or  $P$  will be affected. Since the depression is characterized by large unemployment of all productive factors, it is reasonable to assume that, when the public tries to release the new balances, it raises the volume of trade ( $T$ ). Hence, the public now holds balances which are larger by the amount of the new money, but the proportion of a year's purchases which this money will command is no greater than before since the volume of trade conducted is now greater than before.

The injection of new money into the system may also be conceived as occurring in the period of prosperity when the volume of trade is high and when there are relatively few unemployed factors of production. This is also a period when the public is unlikely to desire to increase its cash balances since prices are usually rising. Under these conditions, a balance in the equation is likely to be produced by an increase in  $P$ . The increase in the public's money balances causes no change in its command over goods, since the items purchased are obtained only at higher prices than before the new money was added to the public's balances.

In the actual world, it makes a difference whether the new money created comes at once into the hands of that part of the public which has a relatively elastic demand for balances. If this were the case, the size of  $K$  might be increased by the unwillingness of these holders to change the amount of their outlays ( $PT$ ) upon receiving the increased money. On the other hand, if the new balances are supplied to those whose demand for money is relatively inelastic, outlays will be increased until a new equilibrium prevails between balances and outlays.

A second fact which must be considered when actual conditions are analyzed is that the higher outlays resulting from an increase in balances may be used to buy goods the supply of which is either elastic or inelastic. If elastic, it is probable that  $T$  will be increased; if inelastic, the price level may receive the major effect of greater

outlays. In fact, the effect of larger outlays is frequently counterbalanced by increases in both  $T$  and  $P$ .

The discussion so far in this section has assumed that new balances were created either by bank lending or investment, or by the issuance of new currency by the Treasury. It should not be interpreted from this that every act of lending or investing by banks or that all new currency issued represents additions to the money supply. Only net increases in the volume of balances are considered as additions. The balance which the bank gives a member of the public when the bank buys a bond may then be used to retire a loan at a bank, leaving total balances at the same level as before. The banks as a whole have increased their investments and have thereby induced a reduction of their loans and discounts. As a matter of practice, therefore, it may be difficult to increase the aggregate balances held by the public when the public desires neither to increase its outlays nor to increase the size of  $K$ , providing the part of the public which receives the new balances owes money to the banks on previous loans. It is probably true that this type of sequence may account for some part of the reduced demand for commercial loans in the period between 1922 and 1928. Purchases of increased amounts of government bonds up to 1927, and of other types as well thereafter, created balances which eventually came into the hands of people who either owed the banks or who might have found it necessary to borrow if new balances had not been created by bond purchases by the banks.

This description of the public's influence upon the supply of money is not meant to imply that the banking community does not exercise a substantial influence upon this supply. Its influence is so great that certain students consider that the banks virtually establish the volume of money while the public determines thereafter how that volume will affect the level of prices and the volume of trade. The paragraph above was presented to show how the public may at times frustrate the unconscious attempts of the banking system to create excess supplies of money in their quest for profits.

### THE CASH BALANCE EQUATION AND "HOARDING"

Throughout the previous discussion, nothing has been said about the problem of "hoarding" which is so often mentioned in contem-

porary discussions of money. Typically, the cash balance theorists do not distinguish between money that is active and money that is not. All money is held by some individual or firm for a reason. The reason may be to transact business in the immediate or the distant future; or the reason may be to protect oneself against contingencies which are likely to occur. In any case, the events that are customarily called "hoarding" can be better described, according to cash balance theorists, by considering them as influencing velocity or  $K$  rather than the volume of money. The merit of this view lies in the fact that if money is to be classified into "active" and "passive" categories, the definitions of each must be changed to fit each new problem which is to be analyzed by the use of such terms.<sup>2</sup> It is better therefore to view the stock of money as having subdivisions, each of which may have a different velocity from zero upward in any given time period. The weighted average of these various velocities provides a better statement of the facts than does an approach by way of a classification of the degree of activity of individual money units. Such a method has the additional advantage of being susceptible to measurement with current statistical data whereas the classification of money into "active" and "passive" categories cannot be done or is done only upon the basis of numerous assumptions.

### CHANGES IN THE DEMAND FOR MONEY

It was indicated above that the public's demand for balances is sometimes an important influence in establishing the amount of money that will be held, although the major influence in most cases is either the banking system or the Treasury, or under some circumstances, the production of gold. It is now desirable to examine more specifically the changes which are brought about in the equation when changes in the demand for balances take place.

Increases in the demand for money when its supply increases. First, the relation of an increased demand for balances to the volume of balances may be examined. If an individual anticipated outlays in the immediate future which would exceed his current balances or reduce them below what he regarded as a safe or desirable level,

<sup>2</sup> For other criticisms of the concept of hoarding in this connection, see Marget, *op. cit.*, pp. 459-461. For a contrary view, see Angell, J. W., *Investments and Business Cycles*, pp. 35-36, and references there cited.



he might obtain a loan from his bank in an amount that would permit him to make the required outlay. The person to whom he passes the balance must then decide either to retain it, or if his balances are already as large as he desires, to pass it on to still another person by buying commodities and services or claims. Unless the balance is received by one who owes the banks or who purchases securities from them, the volume of total balances is increased. The original borrower, it will be noted, did not obtain the loan for the purpose of holding greater balances but for meeting a definite increase in outlay. Nevertheless, as was pointed out in the chapter on "The Limits to Bank Credit Expansion," he holds somewhat larger balances, on the average, throughout the life of the loan than he would have held if the loan had not been made. Furthermore, the public as a whole may also hold larger balances unless these balances are used to repay obligations to the banks or to buy investments held by the banks. Since there is no reason why the greater supply of deposits should cause the banks to sell their investments, it is not likely that the latter possibility will occur. Such a case as has just been described, wherein an increase in the demand for money induces an increase in the volume of balances, does not express completely satisfactorily the view of demand generally associated with the cash balance approach. That view may best be examined by reference to the changes in the size of  $K$ , which is the focus of the decisions of individuals and firms in administering their balances.

**Increases in the demand for money when the volume is constant.** Increases in the demand for money to hold are shown in the cash balance equation as increases in the size of  $K$ , thus a rise in  $K$  from  $\frac{1}{6}$  to  $\frac{1}{5}$  means that the public has changed its command over transactions from 60 days' outlay to 72 days. Assuming such a change to occur when the volume of balances is unchanged, adjustments must take place in the level of  $T$  or of  $P$ , or both. Such conditions are usually characteristic of periods of declining business activity with accompanying reductions of prices. If the public still desires to increase its command over goods at the lower level,  $T$  and  $P$  will continue to decline until such desires are satisfied. The greater the fall in trade and prices the more difficult it becomes for the public to make its increased demand for balances effective. The two changes are therefore seen to be compensatory. Some writers consider such

conditions to be cumulative in nature rather than compensatory, because declines in trade and prices lead to a desire to increase balances; the attempt to increase balances then leads to further declines of prices and business volumes. It is possible to reconcile these two views by conceding that the initial downward movement in prices is likely to be cumulative and self-reinforcing. But when these declines have continued long enough to have reduced the levels of income to relatively low levels, it becomes increasingly difficult for the public to make the sacrifices of goods and claims which they must relinquish in order to obtain balances. Thus while some members of the public are still receiving sufficient income to enable them to increase their balances, others find that current income is not adequate to cover current outlays, so they reduce their balances to meet the deficit.

This description of the public's behavior in administering its balances must not be viewed as an attempt to account for business cycles, since such a theory would require a thorough examination of the motives which induce the public to increase its demand for balances. Nevertheless the cash balance analysis with its emphasis upon the public's administration of balances provides a framework for the analysis of the manner in which cyclical impulses are transmitted by means of the money mechanism to all parts of the economic system. Certain students of cycles give great emphasis not only to the role of money in transmitting impulses but to the likelihood that such impulses are intensified as they are transmitted.

Decreases in the demand for money. When the public decides to reduce its command over goods, thereby reducing the size of  $K$ , it attempts to release balances by exchanging them for goods, services, and claims. If the volume of money is unchanged, the release of balances by one individual must be paralleled by a receipt of balances by another. If the entire public follows the same pattern, the effect must be to increase the level of  $T$  or  $P$  or both since total balances are exchanged by assumption. The equation is therefore balanced by a fall in  $K$  and an increase in the magnitude of  $T$  or  $P$ .

The discussion of the administration of balances so far in this chapter has emphasized the public's rational conduct in considering the amount of command over transactions which it desires to hold in the form of balances, as if such decisions were made only after

meticulous examination of the relative advantages of holding balances versus the holding of goods and claims. Most students would probably agree that conduct is never so rational nor so spontaneous as to lead to prompt, exact adjustment. There are also changes in business organization which affect the variables in the equation, although such organizational changes are not undertaken for the purpose of obtaining greater efficiency in the use of balances.

To cite an example given by D. H. Robertson:<sup>3</sup>

If business becomes more closely integrated than before, a certain amount of money which has been held for the purpose of making payments between firms will become redundant, and will (under normal conditions of trade) be spent or invested in ways which will increase the aggregate of incomes and raise the price-level of output. There has been no change in the general velocity of circulation of money, or, in other words, in the proportion of annual transactions which people wish to have enough money on hand to conduct; for the volume of transactions has diminished *pari passu* with the volume of business deposits. But there has been an increase in the velocity of money *against output*, in other words a decline in the proportion of annual output which people wish to have enough money on hand to purchase.

It is necessary, therefore; that in analyzing the changes in  $M$  and their effect upon  $T$  and  $P$ , or changes in  $P$  and  $T$  and their effect upon  $M$ , both through the public's attitude with respect to the size of  $K$ , that we do not relate all such changes to psychological phenomena, independent of the institutional changes which form a part of the data upon which economizing individuals base their decisions.

### THE CASH BALANCE APPROACH AND PLURAL PRICE LEVELS

When the entire volume of balances is related to the volume of payments to be accomplished by their use, no consideration is given to the fact that, at any given time, parts of the balances are held by individuals who have planned specific outlays with them. Parts of the total, for example, may be held specifically against necessary outlays for consumption goods; other parts may have been accumulated for the purchase of securities or titles to real estate. Therefore the balances held at any given time may be subdivided into ele-

<sup>3</sup> Robertson, D. H., "A Note on the Theory of Money," *Economica*, August: 1933, No. 41, p. 244.

ments having particular relevance for given special price levels which they will affect through the volume of outlays.

Keynes<sup>4</sup> has distinguished three categories into which  $M$  may be divided. *Income deposits* are those balances which must be held by individuals in spending income by reason of the irregular receipt and disbursement of money income. *Business deposits* are the balances held by firms because their receipts and disbursements of money do not exactly match in any given time period. *Savings deposits* are those balances which are held so as to draw interest, or are accumulated in anticipation of the purchase of an investment. Savings deposits, according to this terminology, are also the deposits held because the holder expects them to appreciate in value by reason of a decline in the market value of goods and claims.

The distinction of these three categories brings out the fact that the administration of balances by firms and individuals is guided by the current pattern of payments in so far as income deposits and business deposits are concerned. It can be expected that the decisions which establish the size of these balances will be approximately as stable as the volume of output. The savings deposit balances, on the other hand, are the part of the total balances which can be expected to be more volatile over a period of time; these are the balances whose volume may be most directly and promptly affected when individuals change their anticipations regarding the future course of prices and interest rates.

The division of balances into the categories above does not provide any satisfactory means of relating the categories to particular price levels, and therefore no clue to this problem is obtained by recognition of them. They provide insight into the latitude which the individual may possess in his administration of balances. As a method of attacking the problem of plural price levels, Marget<sup>5</sup> has suggested that the formula as stated may be amended by the use of subscripts which will denote the particular parts of total balances which are held to meet specific outlays, thus the equation may be written

$$M_i(1/K_i) - (PT)_{i.p.} = (PT)_{i.c.}$$

<sup>4</sup> Keynes, J. M., *A Treatise on Money*, New York: Harcourt, Brace and Co., 1930, Vol. I, pp. 35-36.

<sup>5</sup> Marget, A. W., *The Theory of Prices*, New York: Prentice-Hall, Inc., 1938, Vol. I, pp. 427-428.

The subscript  $i$  relates to balances received through current income or their outlay for current goods; the subscripts  $p$  and  $c$  relate to outlays for producers goods and consumers goods. The equation assumes, for purposes of illustration, that current money income is held only against outlays for producers' goods or for consumers' goods, and not for such other purposes as payments for securities and real estate. The equation could, of course, be so qualified as to relate to each of the distinguishable streams into which outlays may be divided.

Implications of the cash balance approach for monetary policy. The emphasis which the cash balance approach to the study of money places upon the administration of balances also leads to the choice of certain principles in the recommendation of monetary policies. For example, if a method could be devised for counterbalancing changes in the demand for money by appropriate variations in its supply it is conceivable that greater stability might be accomplished in the value of trade ( $PT$ ). When changes in the value of trade are viewed as a reflection, at least in part, of variations in the demand for money, it becomes possible to consider the task of monetary policy to allow (or induce, where possible) changes in the supply of money so as to confine the effect of the changed demand to a course which does not lower the level of income. The most interesting implication of schemes for the establishment of money systems based upon a group of commodities (such as the one described in Chapter 2) is the manner in which they allow for increases in the supply of money when the public expresses such a desire by its willingness to give a larger volume of commodities and claims than formerly for a given number of money units.

Another interesting problem which the cash balance approach seems to point up is the question of whether the type of assets held by the banking system has any relevance in a period of rising demand for balances. During the contraction phase of the business cycle, the public expresses an increased demand for balances by the sale of securities, commodities, and real estate on a declining scale of prices. It is during this same phase that the supply of balances has usually decreased as a result of repayment of bank loans. Thus the demand for balances was confronted by a reduced supply, and prices and trade were required to fall more in order to balance the

equation than would have been necessary had the supply of balances not declined.

Under conditions existing since World War II, most of the deposits of banks were created by the purchase of government bonds by the banks. It is most unlikely that these bonds will be retired by the government in any future decline of business activity, therefore the supply of money should not contract as much as it has in the past. To the extent that this is true, it should be possible in the future for a rise in the demand for money to be satisfied at higher levels of prices and trade than would have prevailed if a large volume of bank loans to businesses and individuals were outstanding.

### STUDY QUESTIONS

1. Assuming less than full employment and an inflexible demand for money, how will a new balance in the cash balance equation be attained after an increase in the money supply?
2. Analyze your own reasons for holding the *average* balances you hold. Do they agree with the cash balance concept of the demand for money? To what extent are your holdings a result of conscious planning on your part, and to what extent is your conduct habitual and subconscious?
3. Would it be correct to say that one's cash balance serves the same purpose for an individual that an inventory of goods serves for a merchant? Explain.
4. How would the demand for cash balances be affected by a rise in the rate of interest?

# CHAPTER

## 18

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### THE VALUE OF MONEY: INCOME AND EXPENDITURE APPROACH

**Introduction.** The discussion of the value of money in preceding chapters has focused upon problems of the supply of and demand for money and its velocity, the level of prices, and the volume of trade. An understanding of these relationships is essential to analysis of more complicated problems such as the relation of money to consumption, investment, the rate of interest, and the level of aggregate income. Since a comprehension of both of these groups of problems in their relation to money is vital to insight into modern economic problems, the present chapter will summarize the extensive discussion of the past two decades in which the latter group of variables has been re-examined and brought to more fruitful use in economic study.

Since recent discussions of the relation of money to consumption, investment, interest, and income are most often stated in the terms employed by John Maynard Keynes, the material which follows will use his terminology and the refinements in it provided by his followers and critics. In doing this, it is necessary to neglect the work of two other eminent English economists, Professor D. H. Robertson and Mr. R. G. Hawtrey, and many other students such as the Swedish group of writers who have contributed much to present-day understanding of the flow of money. However, it is beyond the purpose of this book to treat in detail the entire field of monetary theory; consequently a choice of what is of greatest present interest is made.

## BACKGROUND OF THE INCOME-EXPENDITURE APPROACH

The income-expenditure approach to the value of money attempts to answer the question why the volume of economic resources available to society is so often greater than the volume which society finds it possible to use for creation of goods and services. This problem is considered more comprehensive than the problem of business cycles, for even at the peak of many business cycles there are significant volumes of technologically usable labor and equipment which cannot find employment. If these resources were idle solely by reason of economic frictions, maladjusted prices, etc., the problem would not require examination in connection with money and banking problems except in so far as money and credit might serve to overcome these conditions. It is the contention of Keynes (and of many other economists for more than a century) that underemployment in modern societies is mainly attributable to the fact that income is produced and exchanged by the use of money and credit.

Every generation in the past century and a half has contained advocates of the view that business cycles and unemployment were chiefly a result of the inadequacy of purchasing power in the hands of the public to buy all the products which the society is capable of producing. Some writers attributed the inadequacy to the low level of wages; others found the weakness to originate in "a flaw in the price system"; and still others considered that receipt of profits caused purchasing power to be insufficient to buy all the product that could be produced. Orthodox economics as represented by J. B. Say, Ricardo, and J. S. Mill denied that any deficiency did exist or that it could occur under prevailing institutions.

Say's law was set forth in an endeavor to establish the continuing adequacy of purchasing power, and to refute the notion that inadequate purchasing power can exist. Say began his attack upon the doctrine of inadequate purchasing power by stating that it must mean one of two things: (1) that there is a larger total product than is desired or, (2) that there is a greater product than can be purchased. The first Say considered manifest nonsense, for the public would not work to create goods which they did not desire. The sec-



ond meaning was also considered indefensible, for goods and services are themselves the purchasing power for other goods and services. Purchasing power, in the last analysis, is created when goods are created and in exactly the same volume since the two are really the same thing. Continuing the argument, it was held that periodic interruptions of production were the result of "misdirected" production in which certain goods were produced at rates which the market would not absorb at prevailing prices. It was admitted that the fall of the prices of commodities in great supply might give the appearance of a condition of general overproduction but when the relative volume of each commodity produced was brought into balance, production would rise again.

This description of Say's analysis of the market does not include the many improvements in the statement of it which have occurred since it was first written. But it is this simple statement which has provided the point of departure for many attacks upon the orthodox analysis of purchasing power. One type of attack upon the above argument concerning the adequacy of purchasing power has been through the distribution of income. This attack argued that, while there might be enough purchasing power at all times to buy the entire product, its concentration in the hands of a wealthy few who were unwilling either to consume as much as their income permitted or to buy capital goods with all that was not consumed brought an increasing volume of unemployed resources. This view thus introduces the important "time options" of money which permit the economic system to produce a greater quantity of goods during any given period than can be *bought with the money which comes to the market*. Thus the economic system, while yielding equal quantities of goods and purchasing power, may be forced to reduce output by reason of the public's unwillingness to use the purchasing power which it possesses.

It should be noted that these views are not as contradictory as they at first appear. In the long run, Say's law is valid, for no one except perhaps a miser desires to increase his holdings of speculative balances continuously. Therefore, money which is withheld from the market at one time does reappear at a later time. In the meantime, however, business depression may result, and billions of dollars of income may be lost through failure to produce goods with the

resources made idle by lack of purchasing power available in the market.

The most serious weakness of the doctrine that purchasing power is deficient, in its crude form, is that it fails to show why movements of prices, wages, and interest rates will not offset the deficiency and bring a condition of equilibrium at a reasonably high level of employment. Since Keynes' treatment of these problems includes these aspects of the price system, it is desirable to examine these features of the flow of income in terms of his analysis.

### KEYNES' ANALYSIS OF SAVING AND INVESTMENT

Where other writers analyze the flow of income by showing the mechanisms through which the volume of saving and the volume of investment are brought into balance, Keynes defines saving and investment in such ways as to make them equal. He does this by stating that all money income ( $Y$ ) is earned either by the production of consumption goods ( $C$ ) or the production of investment goods ( $I$ ) so that  $Y = C + I$ . Income received must therefore be a payment for the production of one or the other of these types of goods. Saving ( $S$ ) is defined as the part of income which is not spent for consumption goods so that  $Y - C = S$ . It is also true that  $Y - C = I$ , therefore things which are equal to the same thing are equal to each other and  $S = I$ . If the public attempted to save more than it invested,  $I$  would fall and a simultaneous decline would occur in income. The decline of income would continue until the amount the public desired to save was equal to the amount it was willing to invest. Contrariwise, if the public attempted to increase its investments at a greater rate than its savings, the level of income would rise until the desire to save and the incentives to invest were again in balance.

Keynes believed that the idea that savings can exceed investment or *vice versa* grew out of the study of the expansion and contraction of bank credit. A clearer conception of his treatment of the saving and investment problem may be gained from his statement of the equilibrium of these two quantities when an increase of bank credit occurs: <sup>1</sup>

<sup>1</sup> Keynes, J. M., *The General Theory of Employment, Interest, and Money*, Copyright 1941 by Harcourt, Brace and Company, Ltd. By special permission of the publishers, pp. 82-83.

If the grant of a bank credit to an entrepreneur additional to the credits already existing allows him to make an addition to current investment which would not have occurred otherwise, incomes will be increased and at a rate which will normally *exceed* the rate of new investment. Moreover, except in conditions of full employment, there will be an increase of real income as well as of money-income. The public will exercise a free choice as to the proportion in which they divide their increase of income between saving and spending; and it is impossible that the intention of the entrepreneur who has borrowed in order to increase investment can become effective (except in substitution for investment by other entrepreneurs which would have occurred otherwise) at a faster rate than the public decide to increase their savings. . . . No one can be compelled to own the additional money corresponding to the new bank-credit, unless he deliberately prefers to hold more money rather than some other form of wealth. Yet employment, incomes, and prices cannot help moving in such a way that in the new situation someone does choose to hold the additional money.

Thus Keynes demonstrates that an increase in bank credit, and hence monetary resources, for the purpose of adding to investment, yields both an increase of investment and an equivalent increase of savings in the form of monetary holdings.

Certain students find it difficult to employ these concepts of saving and investment in useful analysis of the real world because of their implicit assumption of spontaneous adjustment without a lag of any kind between the one act and its consequent effect. Moreover, the definition of saving and investment as being equal under all circumstances leaves no way to approach the problem of variations of income through the saving-investment equation since divergences between saving and investment cannot occur. Since traditional ideas of saving and investment permit fruitful use of the divergence of the two in studying income changes, certain concepts of the Swedish writers sometimes have been used, along with the Keynes type of conception, in describing saving and investment phenomena. Thus, while it is formally true with such definitions that *realized* saving is equal to *realized* investment, it is still possible for *planned* saving by the public to exceed or fall short of the volume of *planned* investment. The introduction of these terms in no way affects the fundamental conception of a *realized* equivalence between the two quantities; it is simply a summary statement of what Keynes himself develops as the mechanism by which the level of income is affected.

Assuming that saving and investment are equal, what are the determinants of the level of income and the rate of utilization of available resources? The solution must be sought in the psychological and institutional forces which cause the public to alter the amount which it wishes to save compared to the amount it is willing to invest at prevailing yields on capital. Keynes analyzes these conditions in terms of three groups of forces: (1) the propensity to consume; (2) the marginal efficiency of capital; and (3) the rate of interest.

### THE PROPENSITY TO CONSUME

**Definition.** The basic problem to which Keynes' analysis is directed is that of aggregate effective demand. According to the equation just examined, it can be seen that aggregate demand will be composed of the public's outlay for consumption goods and for investment goods. The analysis of the propensity to consume treats the first of the parts of total effective demand and states the relation of consumption to income as  $C = f(Y)$ .<sup>2</sup> The factors which will determine the amount of consumption associated with a given level of income are classified as objective and subjective. The objective factors consist of such data as the level and distribution of income, fortuitous changes in capital values, and changes in tax policy. Subjective factors influencing the level of consumption are the desire for a reserve against unforeseen contingencies, enjoyment of interest and appreciation, the desire to bequeath a fortune, miserliness, etc. It is believed that the sum of these influences yields a functional relation between consumption and income wherein consumption will increase with increases of income but less than proportionately.

It should be noted that the equation  $C = f(Y)$  is a summation of the propensities to consume of the individual members of the public. A change in the distribution of income, either to a greater concentration or a more equal distribution, will affect the volume of consumption associated with a given level of income. This follows from the well-established fact that the lower income groups save little or nothing, and the very lowest groups spend, in many years, more than

<sup>2</sup> The treatment of these variables in ordinary terms rather than in the wage units employed by Keynes is believed a desirable simplification at this stage, though not one which does violence to the theory.

their income. On the other hand, the greatest volume of saving is performed by the highest income receivers. Any change toward a broader distribution of income would therefore raise the volume of consumption associated with a given level of income.

The marginal propensity to consume and the multiplier. Keynes employed the concept of a propensity to consume to develop the multiplier principle, and used this principle to analyze the effects of increased investment expenditures upon the level of income. Such increased expenditures can, for illustrative purposes, be assumed to be made by the government so as to be an addition to current private investment. The result to be determined is the amount of increased income which will flow from a new investment of a given amount in each time period.

Suppose that the government spends on investment goods 100 units in each of a succession of time periods and that the public chooses to spend one-half of its new receipts and to save one-half of them. New effective demand will be 100 in the first period. In the second, the government will add a second 100 units, and the individuals who received the first 100 will spend one-half or 50 units of the money received in the first period. In the third period, another 100 units is spent by the government, 50 units is spent by those who received the second batch and 25 by those who received the 50 units spent by individuals in the second period, or a total of 175 units. Spending in the fourth period will be  $100 + 50 + 25 + 12.5$ , or 187.5. If the new investment is continued through a sufficient number of periods at a rate of 100, income will be increased by 200, and the multiplier will be 2 when the propensity to consume is one-half. If the propensity to consume were two-thirds, the multiplier would be 3, and income would be raised by 3 times the amount of the new investment. To generalize this statement, the multiplier ( $k$ ) may be stated as an equation

$$k = \frac{1}{1 - \frac{\Delta(C)}{\Delta(Y)}}$$

in which a given increase of consumption  $\Delta C$  is associated with a given increase of income  $\Delta Y$ .

It is desirable to distinguish between what might be called the "payments multiplier" and the income multiplier. If the government used the 100 money units to hire unemployed laborers, these workmen might spend the entire 100 units for goods at retail stores. The retailer, however, cannot regard the entire 100 units as an income to which his marginal propensity to consume may be applied, for unless he is to disinvest by reducing his inventory, he must replenish his stock. Therefore his decision to save or to spend can apply only to his net income from the transaction. The same reasoning will hold for the firms from which he obtains his stock. It can be seen from this example that the length of time required for the multiplier to affect income will be determined by the length of time which is required for the money, through successive turnovers, to become final income of a like amount.

The multiplier principle was developed for the purpose of showing the effects of private and public investment on the generation of national income. In the United States, it was the basis of the discussion of "pump-priming" expenditure by government and led to the advocacy of the unbalanced federal budget as a means of correcting wide fluctuations in the national income. Money injected into the economic system by means of government deficits, it was argued, would raise the level of income by several times the amount of the deficit. The use of the multiplier as the basis of such revolutionary social planning induced much study of the principle itself, as well as the role of the federal budget in influencing the national income. As a formal statement, particularly of the relation of past consumption to past income, no one has found any serious deficiency in the principle. But when it is applied as a means of controlling present and future income, several weaknesses are apparent.

The first general group of criticisms of the multiplier principle may be classed as "leakages," that is, the reductions of private spending, or changes in the public's use of money, which are induced when the government engages in an expansionary program. For example, the new money created by the growth of the national debt may be hoarded or used to retire private debts so that the volume of effective demand is no greater than before. Another type of "leakage" would result if the new money were employed by the public to purchase imports with no change being produced in the

output (and employment) in domestic industries. The new money may also dissipate a part of its effect through a rise in prices.

Still a different type of leakage, and one which Keynes recognized, is the effect which radical programs by governments may have upon the volume of private investment. If investors consider the government's deficit a threat of higher taxes in the future or perhaps ultimate appropriation of capital, they may reduce their own investment outlays, thereby cancelling or at least reducing substantially the volume of secondary employment created. Leakages resulting from changes in business expectations by reason of fear of government programs may be expected to have variable effects from one situation to another. At certain times, given economic programs may appear extremely radical because they are novel, while continued use of them may bring a reappraisal of their effects which is more favorable to a high volume of private investment.

A somewhat different type of criticism of the multiplier principle as an instrument of economic planning is that it can be estimated only on the bases of *past* statistical data and, when so computed, it has little relevance for future relations between income and investment. Past relations between income and investment are said to be the result of wage rates and prices, interest rates, profit expectations, the stage of the business cycle, etc., prevailing in the period for which the multiplier has been computed.

In summary, the multiplier principle, despite the above cited criticisms as well as others of a more technical nature which might have been presented, represents a significant development in the study of the relation between money and the volume of consumption and investment. The fact that no exact prediction of the results of the injection of a given amount of new money is possible, by reason of "leakages" and other factors, does not constitute a serious objection to the principle itself. It is apparent, however, that the size of the multiplier will be affected by the way in which a program of monetary expansion is administered. If public investment is established in such ways as to provide a minimum of competition with or threat to private investment, "leakages" may be significantly reduced and employment and income favorably affected by the use of only moderate injections of money.

## MARGINAL EFFICIENCY OF CAPITAL AND THE RATE OF INTEREST

The analysis of the propensity to consume applies only to one element in the Keynesian equation  $Y = C + I$ ; therefore it is now desirable to analyze the conditions which determine the amount of income that will be earned by the production of investment goods. In the theory under review, the production of investment goods is considered to be determined by the relation between the marginal efficiency of capital and the rate of interest. Both of these terms have special definitions in Keynes' theory.

The marginal efficiency of capital is conceived as a demand schedule for capital which is determined by the public's expectation of future gains obtainable from the ownership of a newly produced capital asset. If the public believes that such assets will return their own value during their life and in addition a rate greater than the current rate of interest, they will invest in such goods and the volume of production and employment will rise. At any given time, capital assets will be sold to those whose expectations of gain from their use are the highest. Moreover, those firms having the highest expectation of gain from the possession of the goods will be able to offer the highest prices for them.

Keynes' analysis of the rate of interest must be sharply distinguished from the analysis of most other writers. In most economic analysis of the rate of interest, this rate is considered to be determined by the interaction of the schedule of the supply of savings and the schedule of the demand for capital. But in Keynes' analysis, interest is a factor independent of the demand for capital; it is the rate required to be paid to savers to get them to hold other assets than money. In other words, since the public generally finds it more desirable to hold money and bank deposits rather than to hold other assets, such assets must yield a return great enough to offset the great appeal of money and deposits for the saving public.

The inadequacy of the classical statement of the establishment of the rate of interest is criticized by Keynes as follows: <sup>3</sup>

<sup>3</sup> Keynes, J. M., *The General Theory of Employment, Interest and Money*, copyright 1941, Harcourt Brace and Company, Ltd. By special permission of the publishers, pp. 166-167.



It should be obvious that the rate of interest cannot be a return to savings or waiting as such. For if a man hoards his savings in cash, he earns no interest, though he saves just as much as before. On the contrary, the mere definition of the rate of interest tells us in so many words that the rate of interest is the reward for parting with liquidity for a specified period. For the rate of interest is, in itself, nothing more than the inverse proportion between a sum of money and what can be obtained for parting with control over the money in exchange for a debt for a stated period of time.

It is the belief of Keynes and his followers that money in its various forms is so attractive to the public as a form of asset that unless a return of 2 per cent, for example, can be obtained from holding stocks, bonds or other assets, the public will increase its holdings of money at every opportunity. Therefore if the prospective rate of return obtainable from holding assets other than cash (the marginal efficiency of capital) should fall below some given rate, the public's desire to increase their balances would cause any new money to be quickly absorbed into additions to speculative balances and the total volume of spending and investing would not be affected. At any rate above a given minimum, the rate of interest would be determined by the interaction of the public's desire for liquidity and the prevailing supply of money.

In an evaluation of the contributions of Keynes' analysis to the general body of economic thought, Professor Wright<sup>4</sup> has shown that precisely the same results are obtained, whether Keynes' theory or the traditional theory of interest is used to account for investment, so long as the problem involves the assumption of full employment of productive resources. However, Professor Wright has shown that Keynes' analysis is superior in accounting for the influence of the interest rate when the supply of free productive resources offers no impediment to formation of capital. When unemployed resources exist, there is no competition between consumption and investment for the society as a whole. An increase of consumption, instead of requiring reduction of investment, will tend to increase it. Under these conditions, it is in closer conformity with the facts to say that interest is paid to induce savers to release balances for investment rather than to say it is paid to induce them to refrain

<sup>4</sup> D. M. Wright, "The Future of Keynesian Economics," *The American Economic Review*, Vol. XXXV, No. 3 (June 1945), pp. 292-293.

from consumption so that resources may be available for the construction of capital. It is apparent, therefore, that Keynes' emphasis upon the liquidity aspects of interest theory adds a useful tool for the examination of many problems relating to the operation of the banking system and the national income and employment when the supply of productive resources is highly elastic.

## CONCLUSIONS FROM THE THEORY OF EMPLOYMENT, INTEREST, AND MONEY

The combination of the marginal propensity to consume, the marginal efficiency of capital, and the liquidity preference theory of interest into an analysis of the flow of money income leads to interesting conclusions concerning the origin of many modern economic problems as well as to startling proposals for their alleviation. Keynes asked the question, What will occur if the supply of capital increases to the point where the marginal efficiency is below the liquidity preference rate of interest? Under these conditions the public would prefer to add to its holdings of balances rather than to buy new capital, and any increase in the supply of money would therefore be added to balances without any effect upon the output of capital goods. If no increase in the quantity of money takes place, the public will attempt to save more than it invests and, since these two quantities must be equal, the effort will result only in reducing the level of income. This fall of income will then lead the public to discontinue its efforts to save more out of current income than it is willing to invest. Thus the level of income is determined by the current propensity to consume, the rate of interest, and the marginal efficiency of capital.

Under conditions where the marginal efficiency of capital is below the rate of interest, the demand for money will be perfectly elastic. It is possible that great increases in the quantity of money may lead to a decrease in the rate of interest to the level of or below the marginal efficiency of capital. The result would be a rise in the amount of investment and, by reason of the multiplier principle, a greater amount of rise in the level of income. But as income rises, the marginal propensity to consume declines so that the rise is stopped and, in fact, reversed by the public's desire to increase their savings com-

pared to the volume of their investment. The attempt to hoard reduces activity in the investment goods industries and this reduces the marginal efficiency of capital by reducing the sale of goods produced by using them.

The Keynesian theory may be contrasted with certain earlier theories regarding the establishment of an economic equilibrium position. The earlier theories viewed unemployment of labor and capital as a condition of disequilibrium which would be corrected by declines in the rates of their remuneration until their employment was again profitable. The appropriate policy for conditions of unemployment was therefore a pressure downward upon the wage rate and a monetary policy directed to lowering the costs of investment goods.

Under Keynes' theory, these policies, while effective under certain restricted assumptions, are generally considered more likely to maintain the condition of unemployment than they are to correct it. Reductions of wages would lead to a decline in the propensity to consume and a fall in the marginal efficiency of capital, so that the level of income would be reduced still further, and instead of declining, the volume of unemployment would mount. The rise of the level of income from the low point of a depression period comes about when the marginal efficiency of capital rises above the rate of interest. This rise may be induced by the need for replacement of existing capital goods, the discovery of new capital-using inventions, or an improvement in the expectations of businessmen, to name only a few reasons.

From the standpoint of business cycles, the theory under review has a number of interesting implications. First, it appears that there is no reason to believe that the economy will always emerge from a depression as a result of so-called self-corrective forces. If the rate of interest remains high compared to the marginal efficiency of capital, the level of income will fail to rise. Second, when income is rising due to a rise in marginal efficiency above the rate of interest, there is no reason for assuming that the rise will invariably continue until full employment is attained. If, for example, the rising income were accompanied by a distribution of income unfavorable to a high propensity to consume, liquidity preference may rise, the marginal efficiency of capital may fall, and the expansion of income will

be halted and reversed. The theory therefore provides an answer, though by no means the only possible answer, to the question why some periods of prosperity end far short of the point where a scarcity of real resources exists.

### APPRAISAL OF KEYNES' ANALYSIS OF INCOME, CONSUMPTION, AND INVESTMENT <sup>5</sup>

The first reaction to Keynes' theory of the relation of the supply of money to the level of income, consumption, and investment was that the theory was a radical departure from earlier or contemporary theories. Students of the subject were divided into a number of camps; some readily accepted the new doctrine and promptly developed proposals for raising the level of income by social action; others were reluctant to accept the theory itself, and even more so to accept the proposals which seemed necessarily acceptable if the theory itself were sound; still others chose to examine the theory in the light of other contemporary thought and to evaluate the basis for the claim for novelty. Now that a decade and more has passed since the appearance of the *General Theory of Employment, Interest, and Money*, the novel elements in the theory have become much clearer. Those parts which represented mere differences of terms have been reconciled, in whole or in part, with such other analyses as those of Wicksell and his followers and of D. H. Robertson. Perhaps it is safe to say that today the theory is considered a much less startling departure from other analyses than was first supposed.

In the light of systematic examination, there are several fundamental criticisms of the theory which still survive despite intense debate; at the same time, there are a number of contributions in it which have stood the test of rigorous examination. Whether the theory is accepted in whole or in part, the study of the flow of

<sup>5</sup> The material presented here is drawn mainly from the following sources: G. Haberler, *Prosperity and Depression*, Third Edition Enlarged, United Nations, Lake Success, New York, 1946, Chap. 8; D. McC. Wright, "The Future of Keynesian Economics," *The American Economic Review*, Vol. XXXV, No. 3 (June 1945), pp. 284-307; J. A. Schumpeter, "J. M. Keynes: 1883-1946," *The American Economic Review*, Vol. XXXVI, No. 4, Part 1 (September 1946), pp. 495-518. The excellent summary of literature contained in *Economic Stagnation or Progress* by Ernst W. Swanson and Emerson P. Schmidt (McGraw-Hill Book Co., Inc., 1946) was also helpful.

income owes a profound debt to Lord Keynes for the illumination of many obscure elements.

The specific element of the theory which remains most generally acceptable today is the liquidity preference theory of interest as an explanation of short-run, depression phenomena. When interest is regarded from Keynes' view, it is obvious that bank policy can do little to affect either the marginal efficiency of capital or the rate of interest in such ways as to stimulate an increase of income. The theory has therefore given new emphasis to the fiscal aspects of monetary control, particularly the influence of fiscal policy upon the level of investment.

There are a number of features in Keynes' analysis which are more or less generally regarded as weaknesses or outright flaws that vitiate the use of the theory in all but the most limited circumstances. Some of the more important of these criticisms follow:

1. The liquidity preference theory of interest is a short-run account of the forces which establish the rate and, over the long run, the theory of interest must continue to take account of other variables than the desire for liquidity in relation to the supply of money. In fact, the liquidity preference theory does not account for the fact that, in the past at least, one was at times able to receive interest on demand deposits and hence to receive interest for keeping liquid rather than giving it up.<sup>6</sup> In such circumstances, it is impossible to say that interest is paid for not-hoarding.

2. Keynes' analysis is carried out by the use of very large aggregates and thus it inadequately treats or completely ignores the great variety of individual actions and conditions which are assumed to be alike. By treating savings and investments in this manner, the analysis assumes away the leads and lags between various monetary flows in the economy which often constitute the core of the problem.<sup>7</sup>

3. Keynesian analysis treats the demand for capital goods as being closely related to current consumption. In the past, there have been periods when the purchase of capital goods was made far in advance of the immediately prospective requirement for the products to be fabricated with the machines. Where serious institutional and legislative impediments to the increase of capital occur, a rise in the demand for consumption goods may be satisfied by more intensive utilization of existing capital by the use of greater quantities of labor.

4. One of the "psychological laws" upon which Keynesian theory places so much reliance is the inclination of the public to save a greater propor-

<sup>6</sup> See Haberler, G., *op. cit.*, p. 206.

<sup>7</sup> See Schumpeter, J. A., *loc. cit.*, pp. 512-513.

tion of its income as income increases. No one seems to doubt this statement when it is applied to the conduct of an individual whose income rises while that of his neighbors remains unchanged. But when all incomes rise, competitive spending is heightened, and it is often the case that no greater proportion is saved than before. Professor Bertil Ohlin<sup>8</sup> is inclined to think that the propensity to consume is related to the length of time the income has been received and the prospects of continuing to receive it. Certainly there is enough doubt of the generality of the "law" to require that caution be used in applying it. However, the proof that this law is invalid would not affect the basic theory developed by Lord Keynes.

In conclusion, Keynes' brilliant analysis, while not entirely acceptable in many of its aspects, has stimulated discussion of the problems which he sought to explain and thereby has greatly advanced our knowledge of many problems relating to fiscal and monetary policy. His influence will be seen throughout following sections relating to the money market and monetary control.

### STUDY QUESTIONS

1. Under what conditions does Keynes consider the demand for balances to be perfectly elastic?
2. Draw examples of the schedule of liquidity preferences, the schedule of the marginal efficiency of capital, and the propensity to consume, indicating the titles of the two axes in each case.
3. How will income be affected by: (a) a fall in the liquidity preference schedule; (b) a rise in the marginal propensity to consume; (c) a rise in the consumption function?
4. What may be the effects of a rise in the demand for money for speculative holding?
5. How would the marginal propensity to consume be affected by a more equal distribution of income?
6. Would an increasing urbanization of the population have any effect upon the propensity to consume? Explain.
7. Suppose the banks called loans in the amount of \$1 billion, how would income be affected according to the multiplier analysis?

<sup>8</sup> Bertil Ohlin, "The Keynesian and Swedish Theories," *The Commercial and Financial Chronicle*, Vol. 165, No. 4570 (February 20, 1947), p. 1016.



*PART FIVE*

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MONETARY AND FISCAL POLICIES





# CHAPTER

## 19

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### GUIDES TO CENTRAL BANK POLICY

**Introduction.** While the theory of money and credit has considerable value when used in the analysis of economic conditions, its most important use is in the examination of proposals for economic control by means of money and credit manipulation. Since changes in the amount and intensity of use of money resources often play an important role in determining business conditions, prices, and employment, it is easy to understand why programs for the improvement of economic conditions have drawn much attention to the kind of money and credit institutions most likely to promote economic stability. The fact that these institutions as they exist at any given time are simply the expression of previous efforts to promote stability and economic progress means that one need not think of prevailing institutions as "natural" or "right."

The concept of *central* banking as contrasted with *commercial* banking embodies the idea that central banks will have immunity from certain common rules of banking practice so that they may be able to act in ways that will promote stability. These actions may mean stimulation of commercial banks along a course of action which the individual banks themselves have chosen or they may mean a series of maneuvers contrary to the action of the individual banks designed to offset what may seem to be undesirable trends. The immunity of central banks to common rules of banking practice may take or has taken a number of forms, among which the following are important: limitation of the operation of the profit motive by limitation of the rate of return to capital investment; permission

to suspend reserve requirements under certain conditions; and the exclusive right of note issue

The most important consideration concerning the functioning of central banks is whether or not they are empowered to serve as monetary authorities that can formulate and execute monetary policies which they deem to be desirable from the standpoint of the good of the economy as a whole. The concept that the central bank should be a bankers' bank indicates that it should not serve as a monetary authority that can, for example, regulate the supply of money. This concept rather indicates that the central bank should serve chiefly as an institution of accommodation, that is, an institution whose chief purpose it is to aid the banks (member banks) in emergencies and otherwise to assist them in carrying on the banking business.

In the United States, it is quite clear that the Federal Reserve banks were designed to operate as bankers' banks and not as a monetary authority. They were permitted under the Federal Reserve Act of 1913 to deal only with banks and not with the public, and they were not given such powers as would indicate that they were to act as a supreme monetary authority. This observation does not mean that monetary policies could not be formulated and executed by the Federal Reserve banks. It rather means that such policies as were to be devised should be formulated with a view to maintaining the integrity of the doctrine of accommodation; that the Federal Reserve banks should keep themselves in a position to continue to serve the member banks of their respective districts in so far as such services as they might render were consistent with the principles of sound credit.

Since the concept that holds that a central bank should be a bankers' bank does not preclude formulation of policies, it doubtless must entertain some ideas concerning the proper or right guide or guides to be used in the determination of those policies. That the Federal Reserve banks should carry out any kind of policy was not clearly expressed in the Federal Reserve Act of 1913, nor were they required to follow any specific guide to such policies as they might formulate. The guide or guides used by them must, therefore, be discovered in the acts and statements of the Federal Reserve authorities. The same is true of the Bank of England.

Four questions are singled out for study in this chapter and succeeding chapters: (1) What guides might be used by a central bank in exercising its powers of control over money, credit, and banking? (2) What instruments might a central bank use in attempting to achieve its aims? (3) How can the effects of the policies and operations of a central bank in the money market be analyzed? (4) What place does the Treasury occupy in the money market and in the formulation of monetary and fiscal policies?

In discussing these questions, we shall be concerned chiefly with the policies and operations of the Federal Reserve System, which exercises the functions of the central bank in the United States. Some attention, however, must be given to the experiences of the Bank of England, since these experiences greatly aided the founders of the Federal Reserve System in establishing a central banking system in the United States, and gave to Federal Reserve authorities a vast stock of knowledge that was useful in formulating Federal Reserve policies.

## EARLIER GUIDES TO MONETARY POLICY

For convenience, we shall classify the guides used in formulating monetary policies of central banks into earlier and later guides. The purpose of this classification is not to show that one guide was used at one time and that an entirely different one was used at a later time. The criteria which were employed in early banking history are in some degree used today. The interpretations of them and the extent of reliance placed upon them, however, have changed greatly since they were first enunciated. Then, too, a distinction must be made between guides, instruments, and objectives of monetary policies. Guides are the criteria that are used to determine the time when the instruments of control are to be employed and the extent to which they should be used, while the objectives of monetary policies are the purposes or ends to be sought or achieved. For example, one finds throughout the monetary history of the past two or three centuries numerous references to greater stability of business conditions as a desirable objective of monetary policy, but one finds also great differences of opinion on the most desirable guides and instruments to be used to achieve this result. Bankers and statesmen

of an earlier period hoped to achieve greater stability by placing rigid limitations on note issue and on guaranteeing the redeemability of bank notes in gold. Today much less faith is placed in these methods of achieving stability. In other words, the aims of central banking authorities may remain essentially unchanged over a long period of time, but continuous experimentation with the means of achieving these aims takes place.

Gold reserves as a guide. The two earliest proposals for guiding the central banks were, first, the protection of the gold reserve of the country in order to guarantee the convertibility of bank notes into gold, and second, the restriction of credit to the short-term needs of business. The obvious necessity for providing a more uniform medium of exchange than had previously existed caused the redeemability of bank notes to receive greater consideration in the early history of central banking than the restriction of bank credit to the short-term needs of business.

The administration of the policy of guaranteeing the convertibility of bank notes into gold at the option of the holder called for the performance by the central bank of only this one main function, namely, the holding of ample gold reserves. To be sure, the performance of this function was related to the duty of stabilizing business. Holding ample gold reserves in the central bank was thought to be the best method of stabilizing business because it would guarantee to the business community its ability to secure gold for sale abroad and would allow businessmen to quote prices in both the domestic and international markets in terms of gold. Furthermore, the gold reserves held by the central bank would serve as an upper limit to the amount of circulating currency which could be made available to the public, thereby minimizing the threat of inflation and rising prices. An additional gain from this ready redemption was the lessening of the desirability of hoarding. Not all hoarding arises from fear of devaluation, but that part which does originate from this fear would be minimized if the central bank possessed ample resources in gold.

A central bank which uses gold reserves as the sole criterion in the formulation of its credit policies must, when those reserves decline, differentiate between a decline in reserves which is temporary and one which is not likely to stop short of the depletion of those

reserves. If, for example the decline in reserves is due to a gold outflow that is only temporary in character, the central bank might purchase securities and bills in the open market in order to allow the commercial banks to ignore the gold movements. The same policy might be followed in the case of a decline in central bank reserves due to a seasonal change in domestic business activity. If, however, the decline in the reserves of the central bank is found to be due to speculative excesses, or other causes, which are not likely to correct themselves before the reserves are seriously impaired, the central bank might take quite drastic action to tighten the market. An outflow of gold that is likely to be of long duration might also call for strong measures designed to raise the general level of money rates in an attempt to stop or reverse the adverse gold movements. This differentiation between situations that call for a policy to speed and improve the natural forces of the market and those that call for a policy which would offset prevailing tendencies, is often extremely difficult to make. It is most difficult in the early stages of a movement at which time central bank action is likely to be most effective. If the central bank authorities mistake a gold outflow which is the beginning of a long-term movement in that direction for a temporary one, they might take such action as would seriously damage the entire banking system and cripple their own ability to cope with a crisis, should a crisis occur.

The bank rate as an instrument of credit policy. Although the next chapter is devoted to a discussion of the instruments of credit policy, it is necessary to point out here that the chief instrument used by central banks in the early period of the history of central banking was the bank rate. When the central bank wished to aid commercial banks in expanding credit, it would lower the bank rate and, perhaps, supplement that action with open market purchases. When it wished to curb a tendency toward overexpansion of credit on the part of commercial banks, it would raise the bank rate and, at the same time, sell securities and bills in the open market. The Bank of England accumulated a vast amount of experience with the use of the bank rate in the first half of the nineteenth century when recurring periods of expansion and contraction forced it to modify by administrative action the effects of gold movements and other forces, such as inordinate speculation, on its reserve position. During the

same period, and for some time thereafter in countries without a central bank, each commercial bank was forced to watch its own reserve position and to act accordingly. Since in some countries there was no central bank that could act to modify the effects of gold movements, the commercial banks relied on more or less automatic forces to correct maladjustments. In those countries, periods of excessive speculation were generally allowed to continue until the lending power of most of the banks was exhausted. It is difficult to prove, however, that the use of the central bank rate in the countries where a central bank existed produced much more stable business conditions than prevailed in other countries.

Despite the fact that the use of the bank rate in England in the first half of the nineteenth century was not wholly effective in producing the desired degree of stability, out of the experiences of this period certain valuable lessons in the art of central banking were learned. One of these lessons was that a timely application of the instruments of control is essential to their effective use. Another was that a central bank must be managed with a view of protecting the reserve position of the banking system rather than with a view of making profits. These and other lessons gained from the experiences of the Bank of England were inherited by the Federal Reserve System in the United States when it was established in 1913.

*Limitations on note issues.* That excessive expansion of note issue often took place greatly impressed many persons in England in the first half of the nineteenth century. It was observed that excessive note issues raised prices, drove gold from the country and depreciated the foreign exchanges. From these results, many careful students at the time concluded that rigid restriction of the note issue was a most important method of achieving stability. Conant described the doctrine embodied in this conclusion as follows:

The period during the crisis of 1839 developed a peculiar doctrine of finance in England, which obtained a strong footing among public men with only a rudimentary knowledge of political economy and has spread to some extent on the Continent of Europe and in the United States. This doctrine embodies the idea that bank-notes are a form of currency entirely distinct from other commercial paper and forms of credit; that an expansion of bank-note issues, even when redeemable in coin on demand, is a potent cause of commercial crises; and that the way to prevent crises is to place fixed limits upon bank-note issues. Few advocates of this theory

have undertaken to place definite limits upon the volume of bills of exchange or other forms of commercial paper issues by solvent borrowers, but they have maintained that bank-notes were money for all practical purposes of daily use; that an undue expansion in the volume of money has stimulated speculation and expelled gold under the operation of Gresham's law; and that the curtailment of note-issues would maintain sobriety in the mercantile world and restore the equilibrium of the foreign exchanges.<sup>1</sup>

Controversy between "currency school" and "banking school." In the paragraph quoted from Conant, the doctrines of a group of public men known as the "currency school" are described. This group was very influential in the debates leading up to the passage of the Bank Charter Act of 1844, which legislation was a victory for the "currency school" over a rival school of thought called the "banking school."

Mints has summarized the chief contentions of the currency school as follows:

The writers of the currency school contended (1) that the currency should vary precisely as would a purely specie circulation and that there should be permitted no discretionary departure from such manner of variation whatsoever; (2) that the currency should be convertible; (3) that the exchanges were the proper guide in the control of a paper currency; (4) that the rate of interest was a significant factor in determining the volume of bank issues; and (5) that the real-bills doctrine was completely invalid. These are the essentials of their position, but the details of their arguments sometimes varied from one writer to another; and on some issues there was outright disagreement among them.<sup>2</sup>

Although there was some disagreement on the question, the writers of the "banking school" generally agreed with the "currency school" on only one of the points mentioned by Mints, namely, that the currency should be convertible. On all other issues there was disagreement between the two schools of thought. Again, we allow Mints to summarize the chief contentions of the "banking school," as follows:

The essentials of the position of the adherents of the banking principle may be summarized in the following manner: (1) they held that the

<sup>1</sup> Conant, C. A., *A History of Modern Banks of Issue*, New York: G. P. Putnam's Sons, 1927, pp. 119-120.

<sup>2</sup> Mints, Lloyd W., *A History of Banking Theory*, copyright 1945 by The University of Chicago Press. By special permission of the publishers, p. 75.



needs of business would control the volume of notes issued and that the banks could not "force" their notes into circulation; (2) they agreed that a bank-note currency should be convertible; (3) they contended that drains of specie under a metallic currency system would come from great national "hoards" of gold, not from currency in the hands of the public; and (4) while they failed to make an adequate analysis of the nature of deposit banking, they nevertheless saw fairly clearly that deposits form a significant part of the circulating medium, and they cogently criticized the proposal to separate the departments of the Bank, because, as they held, a drain of gold might reduce deposits rather than the volume of notes outstanding. Therefore, the separation might not be successful in achieving the objectives of its proponents.<sup>3</sup>

**Bank Charter Act of 1844.** The Bank Charter Act of 1844 provided for the division of the Bank of England into two parts, which feature the adherents of the banking school opposed. The issue department was allowed to issue notes to the extent of £1,400,000, called the fiduciary issue. Note issues in excess of this figure were to be backed by a 100 per cent reserve in gold. Another provision, which in time gave the Bank of England a monopoly of note issue, stated that no bank of issue should subsequently be created in England and that a bank which was not issuing notes in 1844 could not thereafter obtain the power to do so. The other department, called the banking department, was authorized to compete in the money market by making loans and by pursuing other banking operations.

**Appraisals of currency and banking principles.** As we have seen, the adherents of the currency principle believed that the central bank (Bank of England) should be divided into two departments, and that the issue department and not the banking department should create the circulating medium. They thought that the Banking Department was concerned only with the use and distribution of the circulating medium. They failed to see that deposit banking through credit expansion creates an important part of the circulating medium, and herein lies the greatest deficiency in the theories of the currency school.

The contention of the currency school that the exchanges (foreign exchanges) are the proper guide in the control of a paper currency is also subject to criticism. Whether or not the exchange rates constitute a good guide depends on the kind of economic world that

<sup>3</sup> *Ibid.*, p. 86.

exists and the kind of domestic economy that is wanted. If the rest of the world is engaged in manipulation of exchange rates, the exchange rates may not be a good guide for the country in question. Then, too, the thesis that an export of specie should immediately bring about contraction in the exporting country assumes that such contraction is desirable because it is corrective. The danger is that such contraction will be cumulative in effect and hence disastrous, rather than self-corrective.

The adherents of the banking principle placed great faith in the proper amount of the circulating medium finding its way into the economy, if the banks would make loans and issue bank notes based only on commercial rather than on speculative loans. They depended on what they called the "reflux" to prevent overissues of notes. By this term they meant that all notes that were not needed would return to the banks. Hence, they believed that the volume of note issues would, granted their issuance in the course of commercial transactions, adjust themselves to the needs of the community. The chief deficiency in this theory is best revealed when one considers the situation at the beginning of a decline in business activity. Presumably, an individual firm needs less commercial credit when business activity begins to slump. Although this may be true for each business firm or individual, it is likely to be the exact time when it would be desirable from the viewpoint of the economy as a whole to have an increase in the quantity of money in circulation. To be sure, the adherents of the banking principle believed that booms or speculative excesses and depressions would be avoided if their principles were obeyed. Their case, therefore, rests on the effectiveness of a strict adherence to the commercial loan theory of bank credit as a means of preventing booms and busts. Its weakness rests on the fact that causes other than the volume of bank credit operate to create booms, and further, that a great and probably excessive expansion of bank credit can take place when based on commercial credit.

Both the currency school and the banking school sought to avoid any discretionary management of the currency. The former contended that the quantity of bank notes regulates itself in accordance with the exchanges, while the latter would have the quantity of bank notes regulate itself in accordance with the volume of business

paper of a certain quality. The present-day significance of the debate between these two schools of thought rests not so much in terms of whether one was right and the other wrong, but whether we can find *any* method whereby the quantity of money can be made self-regulatory. The whole issue resolves itself in terms of our willingness or unwillingness to provide a discretionary management of the money supply of the nation. Another facet of the argument lies in the determination of the regulatory agency; whether the central bank (in the United States, the Board of Governors of the Federal Reserve System) or the fiscal authorities (the national Treasury) should initiate and execute policies concerning the money supply. In other words, the question is whether an agency independent of the government or the government itself should regulate the money supply.

### LATER INTERPRETATIONS OF GUIDES TO CREDIT POLICY

The guides which have been classified as the earlier criteria of credit policy were the bases of most central bank policies up to the beginning of World War I. After the war, numerous attempts were made to revive prewar theories and policies. The gold standard was modified in some cases and re-established as a gold bullion or gold exchange standard. The commercial loan theory of credit again became influential in the establishment of credit standards. It appeared for a time in this period that prewar policies would be successfully restored and that *laissez-faire* concepts would function as well as they had in the two decades before the war. But the war had left a legacy of many structural maladjustments such as the overdevelopment of agricultural production, new channels of trade between countries, and poorly chosen parities between currencies, so that automatic adjustment was supplemented by an increasing amount of deliberate intervention into monetary and other economic problems in the effort in some cases to hasten and in others to retard the necessary adjustments.

When control by means of automatic adjustment is abandoned in favor of direct intervention by central banks and federal treasuries, the immediate problem confronted is the guides which will be used to determine when and what kind of action is necessary to promote

the desired conditions. Contained within this problem is the further question of the effectiveness of a central bank, using conventional instruments of control, in attaining the conditions which are desired. The view which one adopts both as to the appropriate guides and the most effective instruments to be employed is conditioned by the theory of money which is held. In general, the more mechanical conceptions of the relation of money to prices consider control to be relatively simple, whereas the theories which give great weight to psychological factors not only are more skeptical of the possibility of control, but they also often consider traditional instruments to be relatively ineffective. Previous chapters have shown that modern theories of money give great weight to the psychology of the public as the nexus between changes in money and credit on the one hand and their reflection in prices, output, and employment on the other. This emphasis has led to renewed efforts, not only to discover new guides for central bank policy but also to reappraise the older guides.

Most of the guides presented below are currently supported by certain groups of students; some have received little professional support but are included because they lend insight into current thought on these questions.

**Price levels as guides.** All recent criteria for the guidance of central bank policy can be divided into two sections, namely, the stabilization of prices and the maximization and stabilization of output. The latter objective may be regarded as the more fundamental, for if it were accomplished by bank policy or otherwise, the influence of changes in the level of prices would be confined to the distribution of income. On the other hand, stabilization of the level of prices might be achieved while a substantial measure of instability existed in the volume of output. Nevertheless it is unrealistic to argue that either of these general groups of guides can be pursued without attention to the other, for they are closely interrelated aspects of any given economic situation and they are both highly important today in the determination of central bank policy.

There are three different guides to banking policy that relate to some aspect of price levels: (1) a constant supply of money which, in an advancing economy, would lead to a declining price level; (2) a stable price level; and (3) a slowly rising price level.

The declining price level. The proponents of a constant money supply argue from several assumptions. They assume that the most successful type of economic organization is a capitalistic system based upon free enterprise, in which the remuneration of the factors of production conforms to their marginal productivity. This assumption leads to a profound skepticism concerning the effectiveness of discretionary control by the state or central bank, whatever the guide employed to time the expansion and contraction of credit. The best guide, from the point of view of these students, would therefore be one which would operate automatically. Furthermore, their argument conceives credit as one of the major disruptive forces in modern business cycles. The pulsations of the credit system through alternating periods of expansion and contraction are, according to this view, the chief cause of the cycle. Individuals favoring this guide argue that when a bank creates credit by buying investments or making loans, it adds to the supply of claims to goods without creating the means for increasing the available quantity of goods. Therefore, the new credits will be used to bid goods away from those currently holding them. Since bank credits are often employed to increase the volume of goods available for capital purposes rather than for consumption purposes, expanding the money supply will give rise to a disproportionality in the production of capital goods as compared to consumers' goods, because resources are being bid away from the consumers' goods industries to be used to construct capital goods. When the expansion of credit is discontinued, an excess supply of productive factors will be located in the capital goods industries. Price relationships will have been distorted by these changes, since the bidding for resources is achieved with a larger volume of purchasing power than had previously been in existence.

The proponents of a constant quantity of money contrast these effects with the operation of a system where expansion of credit is impossible. Capital goods, under such circumstances, would be constructed by the use of funds derived from current savings, and savings represent the voluntary choices of individuals and firms to refrain from current consumption. Hence, the competition for goods would under such conditions be eliminated and prices would not be affected directly. If the new enterprises financed from savings prove

successful, their output will reduce prices, since no new money has been created. But such declines of prices are not considered too harmful, for they are caused by lower real costs of production.

Declining prices have another desirable function, according to the proponents of constant money, for they permit an equitable distribution of the fruits of advancing production. Individuals with fixed money incomes are able to secure a proportionate share of the greater real income under this policy, which, it is argued, is not true of either stable prices or increasing prices. Those who advocate the use of stable prices as guides to credit policy attempt to refute this argument by the assertion that fixed incomes could be adjusted periodically to allow the fixed income receiver to share in the rising productivity of the economy. The weakness of this assertion is that this policy of readjustment of contracts is available now under the system of highly unstable prices and yet inertia, ignorance, and custom prevent its being effective. The conclusion of the group which defends declining prices is that the best way in which the banking system can assist natural forces is to remain neutral. This can be accomplished by the stabilization of the quantity of credit.

The stable price level. Long before the present-day concern with the maintenance of full employment as our leading economic problem, there were many exponents of the view that monetary and credit policy should be directed toward establishment of a stable level of general prices, or perhaps some other component of the price structure such as the level of consumers' prices. However, the problem of full employment, with the attendant inflationary pressures which an expanding money supply would exert if such a condition were achieved and sustained, makes it highly desirable that the choice of a price-level guide for central bank policy be examined with this problem in mind.

Professor A. H. Hansen, one of the leading exponents of the orientation of economic policy to the maintenance of full employment, proposes that the central bank should direct its policy toward the stabilization of prices rather than the stabilization of money wages. His defense of this choice is as follows:

Why should the gains of increasing productivity be taken out in higher wages and incomes and not in an ever-falling general price level?

To this there are several answers. In practice it is not easy under mod-

ern conditions to ensure that prices will be lowered whenever increased productivity reduces unit costs. Under modern conditions there is no automatic mechanism by which this can be accomplished smoothly and easily. There are too many monopolistic or quasi-monopolistic factors in the modern world, including the condition of "monopolistic competition." On the other hand, the machinery of collective bargaining is at hand to enforce wage increases. Moreover, wage increases represent tangible and clear evidence of progress to the wage earner. Higher wages in the pay envelope are impressive; lower prices are noticed vaguely if at all.

There is the further point that if increased productivity were not reflected in higher money earnings, serious frictions would develop in the labor market. In order to hold weekly earnings constant, piece rates would have to be lowered every time new machinery and new production methods were introduced. To be sure, new piece rates are continually being set, but unless they are so set as to yield higher earnings, there is likely to be serious trouble. The worker will be convinced that he has been robbed of the benefits of larger output. He is producing more and more pieces but he gets no more money. Such a wage policy would destroy all incentive to increase output. The same argument holds also for time-rate wage systems.

But this is not all. Rising money incomes (as output rises) benefit the *active* groups (entrepreneurs and workers) in the community. This stimulates progress. Debt burdens decline as income rises. The *active* elements gain while the passive elements (mortgage and bondholders) merely hold their own. Thus effort and enterprise are rewarded.

The problem of government finance is greatly facilitated by a rising money income. Even though tax rates are left constant, revenues will not only rise, but will even rise more rapidly than income if the rate structure is progressive. Thus tax burdens are eased.

International equilibrium is, moreover, facilitated by the upward adjustment of wage rates in each country in accordance with that country's gain in productivity. If increases in over-all productivity occur at different rates of change in various countries, stable wage rates throughout the world would rapidly develop a serious disequilibrium in labor costs. Those countries enjoying the most rapid gains in productivity would experience lower and lower unit labor costs relative to other countries. Disequilibrium in the balance of payment would therefore be created. If, however, wage rates in each country were adjusted upward in line with the increases in productivity in each separate country, the international balance would tend to be preserved.

Finally, the savings-investment problem—one of the most basic and fundamental of those confronting all advanced industrial communities—would be greatly accentuated if money incomes remained constant while prices declined. As prices fell, depreciation funds (gradually accumu-

lated over the lifetime of the capital goods), when finally spent on new equipment, would buy far more than the amount needed for replacement. Thus, the investment outlet for *net* savings would be diminished. Moreover, the fixed-income class, whose real incomes would be rising with falling prices, would tend to save more. In various ways, therefore, the savings-investment problem would be intensified.<sup>4</sup>

It should be noted that certain of Professor Hansen's arguments for a stable price policy hinge upon acceptance of his doctrine that investment outlets are difficult to develop and that their discovery in adequate volume depends upon a reduced volume of savings rather than the removal of institutional impediments to investment. However, it must be granted that the arguments which he advances for a stable price policy under modern conditions are very strong.

The gently rising price level. The argument that the central bank should so control credit as to foster a slowly rising price level stems from the fact that business cycles have been less severe during such periods. When the long-term trend of prices has been upward, depressions have tended to be short and periods of prosperity long. To conclude from this that a gently rising price level is a desirable policy overlooks the possibility that the cycles may have caused the price levels rather than the reverse. Since this guide as an ideal would be unworkable under a full employment policy, it is doubtful if any student would defend it today as a long-run guide for central bank action.

Appraisal of price levels as guides. Price levels of one kind or another have been proposed as guides for central bank policy for several decades, although a study of price fluctuations will convince one that any kind of price level, whether stable, rising, or falling, can give a false and even dangerous signal for bank action. For example, between 1926 and 1929 wholesale prices fell about one per cent per year. Under these conditions, the proponents of a falling price level might have considered conditions to be sound, assuming proportionate and concurrent changes in the level of real income, while those who defend stable or slowly rising prices would presumably have recommended a policy of credit expansion. Since credit was being expanded, particularly for the purpose of carrying secu-

<sup>4</sup> By permission from *Economic Policy and Full Employment* by A. H. Hansen, Copyright, 1947, McGraw-Hill Book Co., Inc. pp. 241-243.



rities on margin, it would have been necessary to safeguard any further expansion from greatly intensifying the speculative purchase of securities. The fact that money and credit tend to flow in several distinguishable but not completely separate channels makes the wholesale price level or any other single price level an incomplete guide for central bank policy.

While it is possible to find limitations to each kind of price level as a guide to policy, this does not mean that central banks should ignore such indexes in arriving at the action required for any given economic situation. Certain students argue that the central bank cannot, for a great many reasons, actually create the kind of prices which it may consider desirable. Even those who question the central bank's power to accomplish such a goal would probably concede that price levels must continue to provide a part of the data for the formulation of this policy.

The above appraisal may be briefly summarized in the following statement by Professor H. S. Ellis:

Price level stability, while it constitutes one of the several legitimate aims of monetary and fiscal policy, does not constitute the only or even the most important aim and it is certainly not synonymous with maintaining full employment.<sup>5</sup>

The creation of conditions which will promote a stable, high level of employment and output has become so paramount in public policy that price levels have become secondary to this aim. In the spring of 1947, general pressure by various government agencies to reduce the level of prices was undertaken with the view that a severe decline of business activity could be avoided if prices were adjusted downward. The policy under this condition of reasonably full employment was directed toward a lower price level. In some future circumstances, our problem may be to maintain stable prices or even to promote advancing prices. In so far as the distribution of income is affected acutely in ways that are favorable or unfavorable to the maintenance of a high volume of employment, to this degree will various price level movements be important in the larger program of economic stability.

<sup>5</sup> Messrs. Mints, Hansen, Ellis, Lerner, Kalecki, "A Symposium on Fiscal and Monetary Policy," *The Review of Economic Statistics*, Vol. XXVIII, No. 2 (May, 1946), p. 76.

## STABILIZATION OF EMPLOYMENT AS A GUIDE TO CREDIT POLICY

A number of years ago, one of the proposed guides for central bank credit policy was the stabilization of business. This guide was often conceived as a policy competitive with the stabilization of prices and the maintenance of sound credit conditions. Our experience during the depression of the 1930's forced a reappraisal of social policy and institutions and led to the general conclusion that the central bank, with its existing powers of control, was unable to cope with declines of such proportions regardless of how timely their action or how astute their judgment. Since our economy was exposed to such powerful cyclical forces and since our existing institutions were so wholly inadequate for dealing with such catastrophes, the last decade has witnessed an extensive examination of ways of dealing more effectively with the problem of instability. The suggested measures have covered a wide range of variables including wage control, the tax structure, farm and other raw material prices, and the federal budget, as well as conventional monetary and banking controls.

In the process of arriving at a public policy for the correction of low-level and unstable employment, traditional central bank policy was carefully weighed and found wanting as an instrument which could be depended upon materially to improve these conditions. Its chief weakness is that, in the main, its methods of control are indirect. When the volume of credit furnished by individual banks is declining because firms are paying their debts to the banks, the only measures open to the central bank are those which make borrowing cheaper by lowering the rate of interest or those which make borrowing easier by means of an increase in member bank reserve balances. Unless business can foresee a profitable market for its product, a decline of interest rates and a greater ease of borrowing will be ineffective as lures in raising the volume of bank credit. This being so, there has been a growing preference by students for such direct stimulants to expansion as public spending to increase consumption, public investment, variations of the tax structure, etc. In such programs, the central bank continues to play a part but its position is subordinate to that which it occupied before the Great De-

pression. Since many of the instruments of control at the present are located in other agencies or are held by Congress, monetary policy now consists to a larger degree in providing orderly conditions in the market where the necessary funds are raised.

In a system of controls in which monetary policy is only one of a number of means to control, it is desirable to question whether the central bank can have objectives of any kind which are independent of the main program of full employment. As Professor Ellis has stated, maintenance of a stable price level is by no means synonymous with the maintenance of full employment. It is probable, therefore, that a full employment program may require not a single-minded pursuit of the goal of a particular price condition, but a flexible policy designed to lend maximum support to the broader program. It is probable, as Professor Sweezy has stated,<sup>6</sup> there are no universally valid criteria. Each new condition will require modifications of former policies whether they be monetary, fiscal, or otherwise.

It is probable that a program designed to induce full employment will at times require deficits in the federal budget as a necessary component of the attack on underutilization of resources. Another component of this program will probably require the central bank to maintain interest rates at low levels and to make additional bank reserves easily accessible. Presumably, Treasury policy and central bank policy would be so dictated as to induce the investment of a higher volume of private capital at the same time the deficit spending is taking place. If the deficit spending results in sending an equivalent amount of private money into hiding, the deficit spending will not accomplish its full purpose. This result can, in part, be avoided if the government spending is concentrated in geographical areas where unemployment is greatest and into uses where private investment capital does not venture.

If the program to induce full employment by means of deficit spending and low interest rates is successful, it must be discontinued promptly when full employment is reached. If it is not, the program is likely to foster speculative expansions which will destroy full employment in the ensuing crash. This conclusion, that deficit spend-

<sup>6</sup> Sweezy, Alan R., "Fiscal and Monetary Policy," *The American Economic Review*, Papers and Proceedings, Vol. XXXVI, No. 2 (May 1946), p. 291.

ing and low interest rates must be suspended when full employment is achieved, can be reached by the following reasoning: The larger volume of consumption resulting from the deficit spending of the government raises the marginal efficiency of capital and thus leads to a greater volume of investment. The greater volume of investment, in turn, leads to a higher level of income and consumption. If in addition to higher incomes resulting from private investment the economy continues to receive new money from deficit spending, money incomes might outstrip production and cause inflation. Therefore the program must be suspended.

The only alternative to a suspension of the program when full employment is reached is to find some means whereby it is altered so as to allocate the appropriate amounts of new money to investment and to consumption. By what means this rather precise and delicate action can be assured is not clear, since precise guides to the determination of central bank and Treasury policy in a period of full employment have not been developed.

### STUDY QUESTIONS

1. What is the significance of the distinction between the central bank acting as a bankers' bank and the central bank acting as a monetary authority?
2. If the central bank is expected to act as a bankers' bank, is the formulation of monetary policy excluded from its functions? If not, for what purpose is monetary policy formulated?
3. Differentiate guides, instruments, and objectives of monetary policies.
4. Why in the earlier period of central banking was greater emphasis placed on the redeemability of bank notes than on the quantity or quality of bank credit?
5. To the extent that bank credit control was exercised in the earlier period of central banking, almost complete reliance was place on what instrument of credit policy?
6. In Chapter 4, the commercial loan theory of bank credit (real-bill theory) was described. Which of the two schools of thought—the currency school or the banking school—in the first half of the 19th century followed most closely this theory?
7. "Both the currency school and the banking school sought to avoid any discretionary management of the money supply, yet they disagreed over the means by which an automatic adjustment of the money supply might be achieved." Explain.

8. "An automatic mechanism for the adjustment of the money supply, if successful, would largely eliminate the need for any guide to monetary policy." Comment.
9. "If the maximization and stabilization of output were accomplished one would need have no great concern over the price level. If the stabilization of the price level were achieved, one might still be greatly concerned over the maximization and stabilization of output. Yet each of these objectives is related to the other." Comment.
10. "A constant supply of money in an advancing economy leads to a declining price level." Explain.
11. "A stable price level and full employment are difficult to achieve." Comment.
12. Summarize Hansen's arguments in favor of the proposition that the gains of increasing productivity should be taken out in higher wages and incomes rather than in an ever-falling price level.
13. Present the arguments for a declining price level.
14. "Sole reliance on the price level as a guide to monetary policy might blind one to the existence of dangerous developments in the economy." Comment.
15. "Traditional central bank policy has been found wanting as a means of correcting low-level and unstable employment." Explain.
16. "Central bank policy should be designed to lend support to a broader program than the pursuit of the goal of a particular price level." What kind of program is suggested by this statement?
17. "If full employment is the objective of monetary and fiscal policies, a change of direction is indicated by nearness to the attainment of the goal." Explain.

# CHAPTER

## 20

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### INSTRUMENTS OF CREDIT POLICY

**Introduction.** The instruments of credit policy available for use by the central banking authorities implement the guides employed in formulating policy decisions. In so far as these instruments are effective, their usage grants power over the money supply of the nation. This power in the hands of the central bank may be incomplete, not only because of the possible inefficacy of the instruments of control but also because of the existence of monetary and fiscal powers in other hands. The Treasury of the national government, unless it and the central bank are identical authorities, may use its fiscal powers in such manner as to complement or to contravene the attempts of the central bank to control the supply of money.

In the United States, the Board of Governors of the Federal Reserve System was conceived by Congress to be a sort of independent public institution which was subservient neither to the Treasury nor to the member banks. The exercise of independent judgment at times has required the Board of Governors to choose between the application of traditional policies and, as the alternative, cooperation with the Treasury in carrying out fiscal objectives. For example, a choice may need to be made between the Treasury's objective to establish and maintain low interest rates and the Board's objective to maintain conditions that encourage sound credit. It is especially in times of war that the Board of Governors finds it necessary to bend all efforts in directions indicated by the Treasury, regardless of other conditions. In two wars since its establishment, such cooperation was given by the entire Federal Reserve System.

In this chapter, we shall be concerned primarily, not with war financing but with the more normal functioning of the Federal Reserve System. Unless otherwise stated, we shall assume that the central banking authorities consider themselves to be free to exercise their best judgment in developing policies and in putting them into operation.

Opinion concerning the effectiveness of the instruments of credit control in carrying out Federal Reserve policy has varied from time to time, but the main outlines of the techniques whereby policy is carried out have been clearly defined. Those instruments of control which we shall later designate as *quantitative* instruments, such as rediscount rates and open market operations, are designed to effect an increase or a decrease in bank reserves. As a result of higher or lower reserve balances, the earning assets of banks are decreased or increased; thereupon, a change occurs in the volume of bank deposits and in the interest rates prevailing in the money markets. When policy directs contraction of credit, the instruments of control are used to decrease bank reserves. Banks, faced with a decline in their reserve balances, are inclined to exercise restraint in extending credit and to take steps to reduce their total earning assets. The desired results are a cessation of the increase or a decline in the money supply and a rise in the prevailing interest rates. When policy directs expansion of bank credit, the instruments of control are brought into play to increase bank reserves, thereby encouraging banks to extend more credit and to bring about a reduction in interest rates. The reduction in interest rates is expected to initiate applications for a greater volume of credit by individuals and business firms for consumption and production purposes.

According to this traditional concept of the role of central banking, little, if any, direct dictation over the precise forms that credit extension may or may not take is required. It rather seeks to alter the conditions that face the individual banker in such manner as to induce him to restrict or ease the terms on which credit is extended.

## CLASSIFICATION OF INSTRUMENTS OF CONTROL

The instruments of credit control that are available for use in the banking system of the United States can be classified as *quantitative*

and *qualitative* instruments. The former category includes those controls that operate in the general money market and are expected to tighten or ease the supply of lendable funds to prospective borrowers without explicit regulations concerning the purposes for which funds might be sought. The qualitative instruments attempt to regulate the volume of credit that might be extended for particular purposes. Quantitative controls have generalized applications, while qualitative controls are selective and discriminatory. In other words, the former seek to induce a greater or lesser total volume of credit extension, while the latter embody a directive that expressly forbids the granting of credit for particular purposes, or more than a specified amount in each transaction for particular purposes.

Quantitative, or general, instruments of credit control:

1. Changes in the discount rate
2. Open market operations
3. Moral suasion
4. Changes in reserve requirements

Qualitative, or selective, instruments of credit control:

1. Establishment of eligibility requirements for rediscounting
2. Regulations concerning the maximum amount of credit that can be extended by brokerage firms or by banks on stocks. These regulations are called controls over margin requirements.
3. Regulations of the terms and conditions under which credits repayable in instalments and other forms of consumers' credit may be granted. Regulation W of the Board of Governors is an example of this type of credit control.
4. Bank examinations and supervision

It is to be noted that under regulations classified as qualitative in character, no attempt is made to control the total quantity of credit of the specified quality. For example, under *Regulation W* banks can extend any volume of credit they might wish, provided the down-payment and maturity requirements are satisfied. The volume of credit extended under this regulation is thus determined by the qualitative standards imposed. The same can be said of credits extended for *purchasing or carrying stocks*. Qualitative standards are imposed in a different way in the case of *eligibility requirements*, since they are imposed, not at the time when a bank's customers apply for credit but, rather, by the Reserve banks when member



banks present customers' paper for rediscount. Although *bank examinations and supervision* are not generally recognized as instruments of credit control, they influence the volume of credit by means of qualitative standards applied to bank loans and investments, and to the practices followed by individual banks.

Turning again to the instruments of control listed as quantitative in character, it is to be noted that such instruments as the *discount rates* of the Federal Reserve banks are used in an effort to influence the total quantity of bank credit, and they do not explicitly regulate the terms on which the member banks may grant credit. *Open market operations* are even more clearly designed to expand or contract the volume of funds available in the money markets for all lending and borrowing operations. *Moral suasion* is not so clearly a quantitative as contrasted with a qualitative instrument of control, because it may be used in attempts to influence the quantity of credit granted for particular purposes. Since, however, it may be used in an endeavor to encourage or discourage the granting of more credit of all types, we shall classify it as a quantitative instrument of control. *Reserve requirements* are changed with a view to encouraging or discouraging the extension of credit for all purposes; this instrument, therefore, is classified as quantitative in character.

## CHANGES IN THE DISCOUNT RATE

The oldest of all the instruments of control available to central banking authorities is the rate charged on customers' paper rediscounted for banks or on direct advances to banks. Its earliest use, as might be expected, was in defense of the oldest of the safeguards to credit, namely, the protection of the gold reserves of the country. With respect to its use in England, Conant says:

A much more important and scientific step than cast-iron rules of circulation was adopted by the Bank of England for the protection of its gold reserve after the crisis of 1857. This step consisted in raising the rate of interest, rapidly by degrees of one per cent at a time, instead of fractions of one per cent, in order to arrest the export of gold. The increasing ease and cheapness of communication had destroyed the value of differences of a fraction of one per cent, when this fraction was divided into fractions of a year, in attracting gold from foreign countries or arresting its departure. The theory of statesmen and students of political economy had generally recognized up to this time only two causes of the export of

gold—payments for merchandise and the pressure of a depreciated currency. The bullion brokers, without spending time over theories, had long since learned by observation that it became profitable to export gold when interest rates abroad were higher than at home. They fabricated bills of exchange, had them discounted by bankers, took the proceeds in gold and shipped the gold to the point where it would earn the highest interest.<sup>1</sup>

The comment of Walter Bagehot on the success of this policy is quoted by Conant as follows:

The beneficial result of the improved policy of the bank was palpable and speedy; we were enabled by it to sustain the great drain of silver from Europe to India to pay for Indian cotton in the years between 1862 and 1865. In the summer 1864 there was special danger; but by rapid and able use of this policy, the Bank of England maintained an adequate reserve, and preserved the country from calamities which, if we had only looked to precedent, would have seemed inevitable. All the causes which produced the panic of 1857 were in action in 1864; the drain of silver in 1864 and the preceding year was beyond comparison greater than in 1857 and the years before it; and yet in 1864 there was no panic. The Bank of England was almost immediately rewarded for its adoption of right principles by finding that those principles, at a severe crisis, preserved public credit.<sup>2</sup>

It should be recognized that the type of drain which the Bank of England affected by this policy was a short-term movement, created in part by differences in the short-term rates of interest in the money centers involved. It is questionable whether control by means of changes in money rate could have changed a flow which originated in an unfavorable merchandise balance or in long-term forces, such as a capital movement for long-term purposes. Clearly such objections must be qualified somewhat, for, if the merchandise balance should arise from slight differences in comparative costs, these costs themselves would be affected by the level of interest rates. Similarly, if the movement of long-term capital is developing from small differences in yields, a rise in the local rate might induce home investment. However, in the latter case, there would have to be some prospect that the capital would continue for a time to earn the higher return in domestic investment.

<sup>1</sup> Conant, C. A., *A History of Modern Banks of Issue*, New York: G. P. Putnam's Sons, 1929, p. 129.

<sup>2</sup> *Ibid.*, p. 130.

As long as the rate of discount is employed to produce changes in the flow of gold, the central bank has a long precedent for its action; it is on less certain ground when the rate changes are calculated to increase or decrease domestic borrowing. In this connection, the central bank raises the rate of discount, thereby increasing the cost of money to the commercial banks, which, in turn, pass on these increases to their customers. The business borrower who has been expanding his business on borrowed money finds costs have increased to the point where expansion is not profitable; he therefore restricts his activity and repays the loans outstanding, and the volume of credit is thus decreased. Since the volume of credit is presumed to have an intimate connection with the level of prices and business activity, the boom is brought to a close.

The same general reasoning prevails with respect to the period of decline in business activity. If all firms were arranged in the order of their costs of production, some firms that had had no profit would make a profit at a lower interest cost. This situation would be especially true with regard to those industries, such as construction and merchandising, in which interest cost is an important factor. If the level of interest rates were lowered, then the higher level of activity in these lines would increase the money flow throughout the economic system and bring about a general improvement in business conditions.

Despite this theoretical demonstration, it is necessary to ask why changes in the rate of interest have often had so little effect upon the volume of credit used by the business world. First, changes in the interest rate at the central bank are not immediately or proportionately reflected in changes in the rates charged customers by the commercial banks or in investment markets. Consequently, to many people the cost of credit is unaffected by a change in the central bank's discount rate. This is especially true of the customers of small banks where interest charges show little change during the course of the business cycle.

Second, the rate of discount has had less effect than is generally credited to it, owing to the timing of the use of the instrument. There are two important reasons for ineffective timing in the past: (1) the central bank has, occasionally, been preoccupied with problems of government finance and therefore has created conditions in

the money market favorable to the development of a boom; (2) at other times, the criteria upon which such a policy would have been based have been confusing by not affording any clear-cut basis for action. For example, in 1927 the Federal Reserve Board could have used wholesale prices and foreign conditions as sufficient justifications for an easy money policy; but conditions in the stock market dictated a contrary action. Where such a conflict of criteria exists, it is difficult for a money authority to know which course to take.

Third, and probably most important, is the high proportion of business costs which are represented by items other than interest payments. Suppose a business in which 96 per cent of the costs are not related to interest rates, and of the remainder one-half is interest and the rest is profit. It is possible that a doubling of the rate will eliminate the margin of profit; yet such changes in interest rates usually occur at a time when business volumes are advancing, with important results on the level of costs because of changes in the rate of turnover. Rising prices also afford profits which would otherwise have been eliminated, if other things had remained the same when the rate of interest was changed. When the volume of business is declining, a fall in interest costs is likely to be less influential in business decisions than the threat of further declines of prices and volumes. If the price level is falling at a rate of 10 per cent a year, the advantages of postponing investment until the completion of the decline are apparent, even though it is known that current rates of interest are more favorable than future rates.

**Penalty rates.** Monetary and banking authorities do not completely agree as to what rate is a penalty rate at any one time or in any one period. A penalty rate may provisionally be defined for present purposes as the rate charged by a central bank which is in excess of the yield on the instruments offered to it for the purpose of receiving accommodation. Several considerations have forced the Federal Reserve authorities to abandon penalty rates as an instrument of credit control. Among these considerations are: first, customers' rates vary greatly in different parts of the United States and strong political pressure has been brought against wide variance among Federal Reserve bank rates in the different districts, and second, the results desired by the imposition of penalty rates are difficult to achieve. The latter point is most apparent when it is considered that the Fed-

eral Reserve banks do not have complete assurance of the uses of reserve bank credit by the member banks, that is, a bank may rediscount paper, the original purpose of which was to finance commercial, productive processes, but may use the proceeds of the rediscount transaction for another purpose. Upon what, then, should the penalty rate be assessed? In addition to these considerations there exists some doubt concerning the efficacy of the rediscount rate as an instrument of control, whether it is a penalty rate or not.

The Federal Reserve Board, in its earlier years, frequently discussed the penalty rate. The domination of the Board by the Treasury for purposes of financing World War I put an end to this discussion. After the war period, the deflation which set in brought pressure for lower rates. Later, the Federal Reserve Board adopted policies, such as that designed to achieve a greater measure of uniformity of rates in different sections of the country, which meant a virtual abandonment of penalty rates. The result has been that in recent years very little attention has been given this instrument of control.

**Preferential discount rate during World War II.** In October 1942, as one means of assisting member banks in buying government securities to finance the tremendous war expenditures of the Government, the Board of Governors announced the establishment of a preferential discount rate of  $\frac{1}{2}$  per cent on advances to member banks secured by government obligations maturing or callable in one year or less. This special rate was called a preferential discount rate because it was lower than the rate at which member banks could rediscount customers' paper. It encouraged banks to purchase government securities in larger quantities, since deficiencies in reserve balances caused by overextension of credit could, with slight cost, be corrected by borrowing from the Federal Reserve banks on short-term government securities at a rate lower than the yield on the securities purchased from the Government. In fact, a preferential rate of  $\frac{1}{2}$  per cent on advances on securities that yield  $\frac{3}{4}$  per cent provides access to Federal Reserve funds on which a net return of  $\frac{1}{4}$  per cent can be derived. If the member banks could borrow from the Federal Reserve banks on government-security collateral only at a rate higher than the yield on that collateral, that rate would in effect be a penalty rate, and they would, therefore, be less disposed

to purchase government securities. The removal of this restraining influence by the existence of the preferential rate assured the Treasury of a ready market for its short-term securities at a low interest cost. Whether financing continuously greater government expenditures at stable low rates on government securities could have been accomplished in the absence of such devices as the preferential discount rate is doubtful.

On April 24, 1946, the Federal Reserve banks of New York, Philadelphia, and San Francisco, with the approval of the Board of Governors, announced the elimination of the preferential discount rate, effective the following day. Subsequently, similar action was taken by other Federal Reserve banks. The Board of Governors in announcing its approval, said that the preferential rate, although it was necessary as a wartime measure, had induced an unnecessary monetization of the public debt in the postwar period.

The removal of the preferential discount rate made the rate for advances on government obligations due or callable in one year or less the same as the rate (1 per cent) for advances to member banks secured by all other maturities of government securities or by eligible commercial and agriculture paper, as well as for rediscounts of eligible paper.

## OPEN MARKET OPERATIONS

Another traditional instrument employed by central banks in control of credit conditions is the purchase and sale of securities in the open market, called open market operations. This instrument of control should not be considered as separate and unrelated to control over the discount rate, nor, for that matter, to any of the other instruments of control. They should all be considered as related parts of a unified policy of credit control. The relationship, however, between control over open market operations and control over the discount rate is particularly close. The general policy with respect to these two instruments is to lower discount rates while engaging in open market buying when the purpose is to induce expansion in bank credit. Unless a change in the discount rate is supplemented by the appropriate open market policy, the change in the rate is likely to be ineffective. If the policy is to induce contraction of

credit, the higher rediscount rate is likewise apt to be ineffective, unless funds are withdrawn from the open market, because banks in the absence of the withdrawal of funds from the money market may find it unnecessary to rediscount paper with the central bank at the higher rate.

The Banking Act of 1935 created a new Federal Open Market Committee and vested in it complete control over the open market operations of the Federal Reserve banks. This committee, composed of the seven members of the Board of Governors and five representatives of the Federal Reserve banks, gives the preponderant voice to the Board, which can defeat itself on questions of open market policy only by dissension in its ranks.

The effectiveness of open market operations as an instrument of credit control rests on their effect on the reserve positions of banks. Federal Reserve purchases of government securities may be made from member banks and nonmember banks, or from nonbank holders. When they are purchased from member banks, these purchases lower the holdings of government securities of member banks, increase the holdings of the Federal Reserve banks, and increase member bank reserve balances. In balance sheet form the result is as follows:

MEMBER BANK		FEDERAL RESERVE BANK	
ASSETS	LIABILITIES	ASSETS	LIABILITIES
Reserve balance +		Holdings of	Member bank
		government	deposits +
Investments -		securities +	

When the Federal Reserve banks buy securities from a nonbank holder, the Reserve bank issues a check for the securities bought, which check is deposited in a member bank and when cleared becomes a credit on its reserve account with the Reserve bank. The bookkeeping entries may be depicted as follows:

MEMBER BANK		FEDERAL RESERVE BANK	
ASSETS	LIABILITIES	ASSETS	LIABILITIES
Reserve balance +	Deposits +	Holdings of	Member bank
		government	deposits +
		securities +	

It should be noted that whether the Reserve banks purchase government securities from the member banks or from nonbank holders,

reserve balances increase and provide a base for bank credit expansion. Whether open market operations induce bank credit expansion depends on a number of factors, including the willingness of banks to make loans and the willingness of prospective borrowers to apply for loans.

When Federal Reserve banks sell securities through the open market to member banks, the volume of this asset held by the Reserve banks declines, the investment holdings of member banks increase, and member bank reserve balances decline, as depicted by the following entries:

MEMBER BANK		FEDERAL RESERVE BANK	
ASSETS	LIABILITIES	ASSETS	LIABILITIES
Investments	+	Holdings of government securities	Member bank deposits —
Reserve balance	—		

When Federal Reserve banks sell securities to nonbank investors, Federal Reserve holdings of government securities decrease, bank deposits decrease, and member bank reserve balances decrease.

MEMBER BANK		FEDERAL RESERVE BANK	
ASSETS	LIABILITIES	ASSETS	LIABILITIES
Reserve balance	Deposits —	Holdings of government securities —	Member bank deposits —

In this case, the important consideration is that the reserve balances of member banks decrease. Whether the effect is to induce banks to curtail credit depends, in part, on whether reserve balances, although smaller, are still sufficient to support a continuation of bank credit expansion and whether factors that increase bank reserves, such as gold imports and a return flow of money from circulation, more than offset the effect of open market operations that decrease bank reserves.

Open market operations in a period of excess reserves. At the beginning of 1932 the required legal reserves of member banks were two billion dollars, and excess reserves were a negligible quantity. From that time to the end of 1940, excess reserves rose rapidly, most of the increase taking place from 1937 to 1940, until they reached almost seven billion dollars. This increase occurred despite the fact that



during this period reserve requirements were raised to as much as twice their previous level. Most of the increase in excess reserves were attributable to gold imports and to the deficit financing of the federal government financed by sales of securities to the Federal Reserve banks. In this situation open market operations and rediscount rates were of no significance and were not used as a means of controlling member bank commercial credit. Altering reserve requirements, as has been indicated, was however used as a means of sterilizing a part of the reserve balances, and open market operations were used as a means of stabilizing conditions in the market for government securities. Open market operations were also employed to help member banks make adjustments to the higher reserve requirements.

When, on January 30, 1937, the Board of Governors raised reserve requirements, effective on May 1, to the highest level permitted by law (double the previous requirements), some banks found it necessary to sell government securities to acquire funds to meet the increased requirements. These sales resulted in a fall in the market prices of government securities, and also in the prices of corporate bonds. Since most of the sales of government securities were long-term issues, the Open Market Committee directed the purchase of government bonds, which action helped to stabilize that market.

Again, with the outbreak of war in Europe in September 1939, the market for government securities weakened and the Federal Reserve banks bought government bonds in the open market, following the issuance by the Board of Governors of the following significant statement—"The Board of Governors of the Federal Reserve System announces that in view of current developments in the international situation, the Federal Reserve banks are prepared at this time to make advances to member and nonmember banks on government obligations at par at the rates prevailing for member banks."

A strong case can be made to support the conclusion that open market operations since 1932 have had a close connection with the course of the market for government securities but have had little relationship trends in commercial credit. The major reason for this development is the rise in importance of government issues in the investment market and the relatively less significant role played in recent years by commercial credit. A possible future rise in the

volume of commercial credit while government financing declines in volume might, of course, alter the relative importance of the two types of credit.

Open market operations during World War II. During World War II, open market operations of the Federal Reserve banks became an adjunct of the fiscal operations of the Treasury. The Federal Reserve banks, early in the war years, pledged themselves to support the market for U.S. securities. The implementation of this policy was chiefly in the form of open market purchases of government securities by the Federal Reserve banks. When individual issues exceeded current demand, the Federal Reserve banks purchased them, and when the demand for individual issues exceeded the volume offered by the Treasury, the Federal Reserve banks sold a part of their holdings. After prospective purchasers became convinced of the resoluteness of intent and the efficacy of Federal Reserve policy to maintain stability in the market for government securities, the Treasury experienced no difficulty in marketing larger and larger issues during the war years.

Early in the war period it became clear that the ever-increasing deficit financing of the Treasury would, in the absence of complete absorption of new issues by nonbank investors, necessitate the expansion of bank credit as a means of financing the war. The course that was followed was that of selling as many government securities to nonbank investors as possible by voluntary methods, rather than by a system of compulsory savings, and selling to banks such issues as were necessary to acquire funds which, added to tax receipts, would equal government expenditures. This course of action resulted in the accumulation of government securities in great volume by banks and in a great increase in bank deposits. To the extent that these newly created deposit liabilities were held by individuals, partnerships, and corporations, greater reserve balances were required. The Federal Reserve banks supplied the needed reserve balances through their purchases of government securities.

Thus it was demonstrated during the recent war period that open market operations are a useful instrument to facilitate the financing of war expenditures. The undeniable effectiveness of Federal Reserve policy to accomplish its purpose during the war is attributable chiefly to a factor that is likely to be absent in the more normal use

of the instruments of credit control, namely, the presence of a huge volume of riskfree investments in the form of newly issued government securities. It is an easy matter to promote more expansion in a period of expansion; it is a much more severe test of the effectiveness of the instruments of control to promote recovery in a period of general contraction.

### MORAL SUASION

The instrument of credit control which has been designated *moral suasion* consists of warnings to member banks against the excessive use of Federal Reserve credit facilities. Generally this method is adopted only when the credit situation has become serious or undoubtedly overextended and consists of a general pressure on the member banks to reduce the volume of their loans. Loans on securities for speculative purposes are a case in point. The pressure may take the form of warnings against overextension of credit, statements concerning the limitation of Federal Reserve funds, the barring of certain loans from rediscount privileges, and the outright refusal to lend funds to those banks which have failed to cooperate in the policy of restriction.

On occasion, moral suasion has been used in attempts to stimulate expansion rather than to halt it. During World War I, banks were urged to accommodate the more essential industries and to reduce the volume of credit granted for less essential purposes. Later, a policy analogous to moral suasion was used by the government, when banks were investigated for their failure to grant loans during the years of the depression. The implication of this investigation was that the banks were engaging in a kind of sabotage, and that the unsatisfied demands for loans were for sound purposes. The investigators were unable to determine that this had occurred; however, the investigation may have had its effects in stimulating the banks to be more liberal in granting loans.

Moral suasion as an instrument for restricting the flow of funds into speculative channels was used by the Federal Reserve Board in the early months of 1929. It appears that there was a tacit agreement among the members of the Board that something should be done to restrict speculation. The Board of Directors of the Federal

Reserve Bank of New York favored an increase in the rediscount rate, but the Federal Reserve Board vetoed the petitions of the Federal Reserve banks of New York, Chicago, and Boston to raise their rediscount rate to 6 per cent. In the place of this traditional policy, the Federal Reserve Board in February announced that it would thereafter refuse the rediscount privilege to those member banks which maintained an unreasonable volume of loans for speculative purposes.

In the spring of 1929, the Federal Reserve Board seemed to place greater faith in moral suasion than in increases in the rediscount rate as a means of restricting speculative excesses. The majority of the Board felt that an advance in the rediscount rate to a high figure would hamper business activity and perhaps bring a crisis. The Federal Advisory Council, for a time, agreed with this view,<sup>3</sup> but officials of the Federal Reserve Bank of New York called vigorously for an increase in its rediscount rate.<sup>4</sup> The Board believed that by moral suasion it could keep member-bank funds out of the stock market and at the same time make funds available for commercial, productive purposes at reasonable rates.

When finally the Board approved an increase in the rediscount rate of the Federal Reserve Bank of New York to 6 per cent, moral suasion as an instrument of control seemed to have been an admitted failure. Although the Board might justifiably be criticized for its tardy use of the instruments of control in its possession, it must be said that it is unfortunate that the monetary authorities did not, in 1929, have power to use such selective instruments as control over margin requirements.

**Moral Suasion during World War II.** During the second World War, it became a widespread practice, called "free riding," to grant applications for the purchase of large blocks of government securities on the basis of a small down payment on them. These applications were usually entered toward the close of a War Loan Drive, and, upon receipt of all or a part of the securities allotted to the subscriber, the securities later were sold above par by the subscriber at a profit. Banks entered the picture by making loans to subscribers

<sup>3</sup> *Annual Report of the Federal Reserve Board*, 1929, p. 218.

<sup>4</sup> See Hardy, C. O., *Credit Policies of the Federal Reserve System*, Washington, D.C.: The Brookings Institution, 1932, Chap. VII.

for the purposes of carrying the securities until such time as they were sold. These loans were "riskfree" because the collateral could, if necessary, be sold at par to the Federal Reserve bank. The Treasury tried a form of moral suasion with respect to the elimination of speculative subscriptions to government securities. An example was furnished by Secretary Vinson, on October 8, 1945, when he addressed a letter to banking institutions throughout the country, which, in part, read as follows:

We have tried to design the securities to be offered in the Victory Loan Drive so as to procure maximum investment of nonbank funds and to hold indirect participation of commercial bank funds to a very strict minimum. I respectfully urge your cooperation in declining to make loans for speculative purchases of Government securities and also in declining to accept subscriptions from customers which may appear to be entered for speculative purposes. I am sure that you as a banker appreciate the importance of eliminating these undesirable purchases and will do all you can to help stop such practices.<sup>5</sup>

### CHANGES IN RESERVE REQUIREMENTS

Under the Banking Act of 1935, the Board of Governors of the Federal Reserve System was given power to raise reserve requirements for member banks by as much as 100 per cent of the levels previously fixed by congressional act. This means that the Board was given discretionary powers within limits, in the matters of reserves required to be maintained by member banks, as contrasted with fixed minimum requirements. Under this act, the Board can eliminate at least a part of the excess reserves of member banks that might exist and bring the remainder under more effective control by the use of open market operations.

Perhaps the most logical use of discretionary reserve requirements is to use this power to prevent bank credit expansion and bank credit contraction based on (1) net gold imports or net gold exports, and (2) increases and decreases in the public's demand for currency. This is true because the absence of power to offset these movements of gold and currency subjects the economy to severe strains. A net gold outflow causes bank reserves to decline which, in turn, might

<sup>5</sup> *Federal Reserve Bulletin*, October 1945, p. 999.

set into operation forces, cumulative in effect, that may result in a severe depression. Net gold imports, which increase bank reserves, might result in an undesirable boom.<sup>6</sup> Likewise, discretionary power over reserve requirements are a convenient instrument of control in the case of movements of currency in and out of the banking system. In one situation, the use of this instrument might prevent a dangerous boom from developing, while in another it might help prevent a devastating depression. That an inflow or an outflow of currency to and from the banking system should be permitted to determine the volume of bank credit has little to commend it. Let us illustrate this observation in terms of a depression situation. If an outflow of currency from the banks (exchange of deposits for currency) should coincide with a depressed economy, each bank would curtail its loans and sell other assets in order to maintain its reserve position. If a bank loses, say \$100,000, by withdrawals of deposits in cash, it loses the same amount of reserves. This amount of reserve balances might have previously supported a much larger volume of bank deposits, \$500,000 or more depending on reserve requirements. In the absence of new money issued by the government and in the absence of any additional amount of Federal Reserve bank credit, the impact of withdrawals of currency from one bank sets in motion in a period of general contraction a sequence of actions on the part of the banks of the banking system that leads to credit contraction. If the first bank, having lost deposits of \$100,000, sells assets in the open market, deposits are withdrawn from the second bank, and so on. Under these circumstances, a lowering of reserve requirements, together with open market purchases by the Reserve banks, if timely action is taken, can be effective in forestalling widespread liquidation of bank assets.

When reserve requirements are raised merely to offset gold movements and changes in the volume of money in circulation in order

<sup>6</sup> Under the international gold standard, gold exports are expected to result in deflation in the exporting country and at the same time automatically and immediately to set in motion forces that prevent depression, while net imports of gold are expected to provide an inflationary element in the importing country and at the same time to set in motion forces that will prevent its having any cumulative effect. To guard against the danger, however, that gold imports and exports might set in motion inflationary and deflationary movements that are hard to stop once they have gained momentum, discretionary powers over reserve requirements are a convenient instrument of control.

to prevent a disruption in bank asset management, this instrument of control is purely preventive in character. If more positive action is necessary, other instruments of control would be employed.

### ELIGIBILITY REQUIREMENTS

Eligibility requirements applied to the rediscounting of customers' paper were once regarded as a very important instrument in the hands of the Federal Reserve System by which attempts might be made to protect the integrity of the commercial loan theory of bank credit. It will be remembered that the proponents of this theory hold that if all bank credit is truly commercial in character, overexpansion of bank credit is impossible; that under strict adherence to the qualitative standards imposed the quantity of bank credit will take care of itself. In accordance with the precepts of this theory, regulations promulgated under the Federal Reserve Act imposed, in the early years of the Federal Reserve System, rather strict rules concerning the quality of paper that member banks might rediscount with the Federal Reserve banks. For example, member banks, until the rules later were relaxed, were prohibited from rediscounting paper arising from investment, speculative, and consumption transactions, as contrasted with commercial transactions. It was thought that the qualitative standards established in the relationships of member banks with the Federal Reserve banks would prevail in the relationships of member banks with their customers.

The Federal Reserve Board (now the Board of Governors) tried unsuccessfully to maintain strict qualitative standards for rediscounting over a period of years. A series of decisions operating in the direction of the relaxation of these standards constitute admissions of failure to maintain the original view concerning eligibility requirements. For a while the Board endeavored to substitute a doctrine of *acceptability* for a doctrine of *eligibility*, by which it attempted to curb rediscounting on the part of banks it thought to be in a weak position on grounds of insufficient security.<sup>7</sup> Finally, in the Emergency Bank Act of March 9, 1933, regulations concerning

<sup>7</sup> See Harris, S. E., *Twenty Years of Federal Reserve Policy*, Cambridge: Harvard University Press, 1933, Vol. I, part IV.

eligibility were greatly relaxed, if not discarded, by the provision that a Federal Reserve bank may make advances to a member bank "on its time or demand notes secured to the satisfaction of such Federal Reserve bank."

On December 31, 1945, the *Statement of Condition of the Federal Reserve Banks* showed a very simple entry of discounts and advances, as follows:

Discounts and advances secured by U.S. Government securities:	
Discounted for member banks	\$201,865,000
Discounted for individuals, etc.	40,000
Other discounts and advances:	
Discounted for member banks	None
	<hr/> \$201,905,000

This statement indicates that today member banks gain access to Federal Reserve credit through advances on government securities and not through rediscounting of customers' paper.

At the present time, therefore, in contrast with the situation in earlier years, regulations concerning eligibility requirements for *customers' paper* are inoperative, and discussion concerning their nature and the theory of banking surrounding them have only historic significance. The present-day significance of advances to member banks on government securities lies in the fact that member banks thereby gain access to Federal Reserve credit and on the larger reserve balances so gained can expand their loans to customers and their holdings of government securities. As long as this situation pertains, no qualitative or quantitative controls are supplied by eligibility requirements.

The most significant weakness of eligibility requirements was revealed in the depression years, 1931-1932, when rather strict eligibility requirements were maintained in the face of widespread liquidation of bank assets in the open market. The great need at the time was to make unnecessary the dumping of bank assets on the market in a futile attempt on the part of the banks to gain cash. This attempt was futile in the face of widespread hoarding of cash and in the absence of courageous measures to supply the economy with new money to offset the volume of hoarded money.



## REGULATION OF MARGIN REQUIREMENTS

The Securities Exchange Act of 1934 provided for regulation of national securities exchanges, and in addition placed certain regulatory powers in the Federal Reserve Board. Section 7 of this act, for the purpose of preventing the excessive use of credit for the purchase or carrying of securities, directed the Federal Reserve Board to regulate the amount of credit that may be extended or maintained by brokers, dealers, and members of national securities exchange. Brokers, dealers, and members may not extend credit except in accordance with the rules and regulations which the Board prescribes; and they may not borrow on these securities except from a member bank or a nonmember bank which had filed with the Board a specified agreement, or in accordance with such rules or regulations as the Board may prescribe to permit loans between members, brokers, and dealers, or to meet emergencies. The act also authorized the Board to regulate the extension or maintenance of credit by persons other than brokers, dealers, and members, when such credit is for the purpose of purchasing or carrying registered securities.

In accordance with the act, the Board issued Regulation *T*, effective October 1, 1934, and which has been amended from time to time as conditions warranted changes in margin requirements. The trend in the amendments to Regulation *T* has been toward higher margin requirements, until they reached 100 per cent on January 21, 1946, as shown by Table 36.

Loans by banks on stocks. As a result of increases in the margin requirements prescribed by amendments to Regulation *T*, there occurred a growing differential between the amount that could be borrowed on a given security from a broker and from a bank. In order to remove this differential whereby Regulation *T* could be circumvented by borrowing from banks, and in order to put itself in a better position to control a speculative expansion, the Board of Governors adopted Regulation *U* on March 24, 1936. Under this regulation, which applies to all banks in the United States, whether or not members of the Federal Reserve System, the Board fixes the percentage of market value that may be lent by banks for the purpose of purchasing or carrying any stock registered on a national securi-

TABLE 36  
MARGIN REQUIREMENTS <sup>1</sup>  
[Per cent of market value]

Prescribed in accordance with Securities Exchange Act of 1934	July 5, 1945- Jan. 20, 1946	Jan. 21, 1946- Jan. 31, 1947	Effective Feb. 1, 1947
Regulation T:			
For extensions of credit by brokers and dealers on listed securities	75	100	75
For short sales	75	100	75
Regulation U:			
For loans by banks on stocks	75	100	75

<sup>1</sup> Regulations T and U limit the amount of credit that may be extended on a security by prescribing a maximum loan value, which is a specified percentage of its market value at the time of the extension; the "margin requirements" shown in this table are the difference between the market value (100%) and the maximum loan value.

*Back figures.*—See *Banking and Monetary Statistics*, Table 145, p. 504, and *BULLETIN* for March 1945, p. 235.

Source: *Federal Reserve Bulletin*, March 1948, p. 294.

ties exchange. Since April 1, 1936, the margin requirements under Regulation T and Regulation U have been identical.

Selective nature of margin requirements. Through its power over margin requirements, the Board of Governors is in a position to curb or extend credit to traders in the stock market without directly altering the supply of credit for other borrowers. When the Board raises margin requirements on stocks the supply of credit to agriculture, trade, and industry is not thereby limited, and the cost of credit for these purposes is not raised.

One of the predicaments the Federal Reserve Board faced in 1928 and 1929 when a tremendous amount of speculation in securities took place, was that it could not curb credit for speculative purposes without at the same time raising the cost and restraining the volume of commercial credit. In other words, the older instruments of credit control, such as open market operations, had not been selective in their applications. Had the Board possessed power to determine margin requirements in 1928 and 1929, it, presumably, would have raised them. The effect of this action doubtless would

have put stocks in stronger hands and would have eliminated much distress selling had the stock market crash occurred despite the higher margin requirements.

As has been observed, margin requirements were raised to 100 per cent in January, 1946. This action eliminated margin trading in stocks and borrowing from banks on stock market collateral. At the time this action was taken, great interest was being expressed in methods for combating inflation with fiscal and monetary measures. Market prices for securities had been rising and some increase had been taking place in the volume of stock market credit. It, therefore, seemed to the Board of Governors to be good policy to use its powers to fix margin requirements at the highest possible level. The chief argument in support of this action is found in the fact that the money supply of the nation had reached an extremely high level and that credit was not so much needed to provide a sufficient volume of turnover in the market.

The volume of credit for commercial and agricultural purposes continued to rise and the cost of such credit did not increase after margin requirements on stocks were raised to 100 per cent. The selective character of margin requirements as an instrument of credit control seemed, therefore, to be clearly demonstrated in the situation that has been described.

## CONTROL OVER CONSUMPTION CREDIT

Since the nature and functions of consumption credit, and problems connected therewith, are discussed in a previous chapter, we shall here consider only the purposes for which consumption credit is subjected to control.

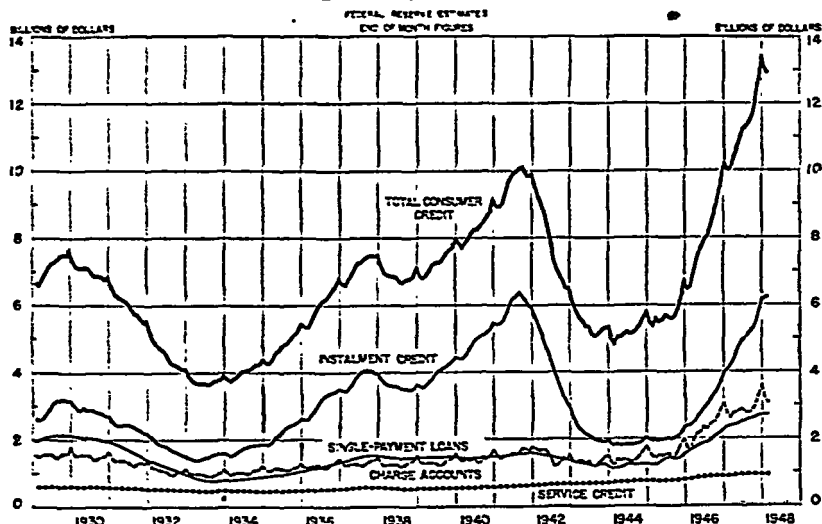
On August 9, 1941, the President issued Executive Order No. 8843 authorizing the Board of Governors of the Federal Reserve System to regulate the terms under which credit repayable in instalments and other types of credit to consumers might be granted. Under this order, Regulation W was issued. The purpose of this Regulation was to divert credit from consumption purposes to the financing of the defense program, later to the war program; to conserve strategic materials for military purposes; and to prevent inflation.

In accordance with the resolution of Congress approved on

August 8, 1947, the instalment credit controls which had been exercised by the Board of Governors of the Federal Reserve System ceased to be operative after November 1, 1947.

Immediately after the effective date of operation of Regulation W, the volume of consumer credit decreased. It must be said, however, that many durable and semidurable articles, such as new automobiles, new refrigerators, etc., were not supplied to consumers during the war period because practically all available raw materials and labor were devoted to the making of the matériel of war. It is extremely doubtful, in the presence of much greater purchasing power in the hands of the public, that a requirement of 33½ per cent down payment on instalment purchases would have had much, if any, effect on the total volumes of such purchases had the goods been available. Another observation concerning the wartime restrictions on consumer credit is that the total volume of such credit, although it fell from the high level of 1941, was nevertheless higher than in the depression years of 1932-1934.

Chart 14  
CONSUMER CREDIT OUTSTANDING



Source: *Federal Reserve Charts*, 1948.

Chart 14 reveals the significant fact that the volume of consumer credit, especially instalment credit, declines in depression periods and rises in prosperity periods. The quick response of consumer

credit to business conditions is demonstrated in the period 1937-1938. The decline in business activity in the late summer months of 1937 resulted almost immediately in a cessation of the rise in the volume of consumer credit. As payrolls declined, consumer credit declined in about the same proportions. It is seen, therefore, that the optimism of prosperity periods leads to brisk sales on credit and adds momentum to prosperity, and that the carryover of such credit into the subsequent period of decline tends to reduce new buying commitments, thereby adding strength to the forces of depression.

The case for control over consumer credit lies, not in the conviction that such credit is an originating factor in booms and depressions, but rather that it accentuates the business cycle. The purpose of control over loans on consumer purchases is to render aid to other instruments of credit control. The effectiveness of attempts on the part of the monetary authorities to prevent a further rise in the money supply in boom periods is considerably weakened if instalment credit and other forms of consumer credit are permitted to increase without restraint. The carryover of a large volume of consumer debt from a boom period into a depression period weakens the efforts of the monetary authorities to stimulate business activity. Requiring higher down payments on instalment purchases in periods when employment and payrolls are high and reducing them in periods of recession seems, therefore, to be entirely consistent with other techniques of control over the money supply.

## BANK EXAMINATIONS AND SUPERVISION

The Federal Reserve Act provides that the member banks are subject to regular examinations for the purpose of ascertaining the lines of credit extended by them. This provision has received various interpretations, with the result that some Federal Reserve banks have made more searching inquiries into the assets, management, and policies than have others. Another source of confusion has been the overlapping authority of the different regulatory agencies. The Comptroller of the Currency, the state bank supervisory authorities, and the Federal Reserve banks all make bank examinations. In recent years the Federal Deposit Insurance Corporation has also been given supervisory powers, and the Reconstruction Finance Cor-

poration examines the banks from which it purchases preferred stock or capital debentures.

The annual report for 1938. *The Annual Report of the Board of Governors of the Federal Reserve System, 1938*, contains a lengthy discussion of the whole problem of bank supervision. This report is interesting, not only because it recognized that confusion still exists in this matter of bank supervision, but also because it presents the relationship between supervisory and credit policies. It suggests, therefore, that supervision may be an instrument of control.

Allocations of authority. This report calls attention to the confusion of jurisdiction in the supervision of different groups of banks, as follows:

Supervision and regulation of banks differ materially from State to State as well as between banks that are chartered by States and those that are chartered by the Federal Government. Even within the Federal Government there is extensive diversity, overlapping, and confusion of jurisdiction in the regulation and supervision of different groups of banks. There are five Federal agencies engaged in bank supervision. Prior to 1933, Federal supervision of the commercial banking system, in so far as it was subject to such supervision, was in the hands of the Comptroller of the Currency and the Federal Reserve Board. Since 1933 there has been added the Federal Deposit Insurance Corporation, which exercises broad supervisory powers. Certain powers of the Reconstruction Finance Corporation also give it a measure of responsibility for the operation of banks, and the Secretary of the Treasury, through the exercise of authority under the President's emergency powers, licenses the operation of member banks and has authority to exercise other regulatory powers.<sup>8</sup>

After mentioning numerous examples of confusion and conflicts of authority, the Board continues with its criticisms as follows:

While duplication in reports and examinations by different Federal agencies is largely avoided by cooperative arrangements, nevertheless delays and difficulties arise from the overlapping of responsibility. Even after an agreement is reached, there may be, and in fact, there are, differences of interpretation of the procedure, formula, or policy agreed upon.

For example, after lengthy negotiations a voluntary agreement between the agencies in connection with examination policy was reached last summer (1938). The effectiveness of this agreement, however, depends, in the first place, on the nature of interpretations placed by the different

<sup>8</sup> *Annual Report of the Board of Governors of the Federal Reserve System, 1938*, pp. 11-12.

agencies on the agreed principles of examination. A similarity of interpretation is difficult to attain because the agencies have different responsibilities and, therefore, different approaches to the problem. The Comptroller of the Currency is primarily a supervisory and examining agency and is, therefore, primarily concerned about the protection of the insurance fund. The Board of Governors, in addition to its supervisory responsibilities, is concerned with national credit and monetary policies, and is, therefore, interested in supervisory policies that are in conformity with credit policies. Such policies must look not only to the status of individual banks and the safeguarding of the interests of depositors, but also to the maintenance of sound credit conditions in the aggregate and a sound banking system, without which credit policies cannot be effectively put into operation.

While the ultimate objective of all agencies concerned is a sound banking condition and an unimpeded flow of funds to finance commerce, industry, and agriculture, the different points of approach to the problem by the different agencies inevitably lead to differences in emphasis in the interpretation of principles of policy.<sup>9</sup>

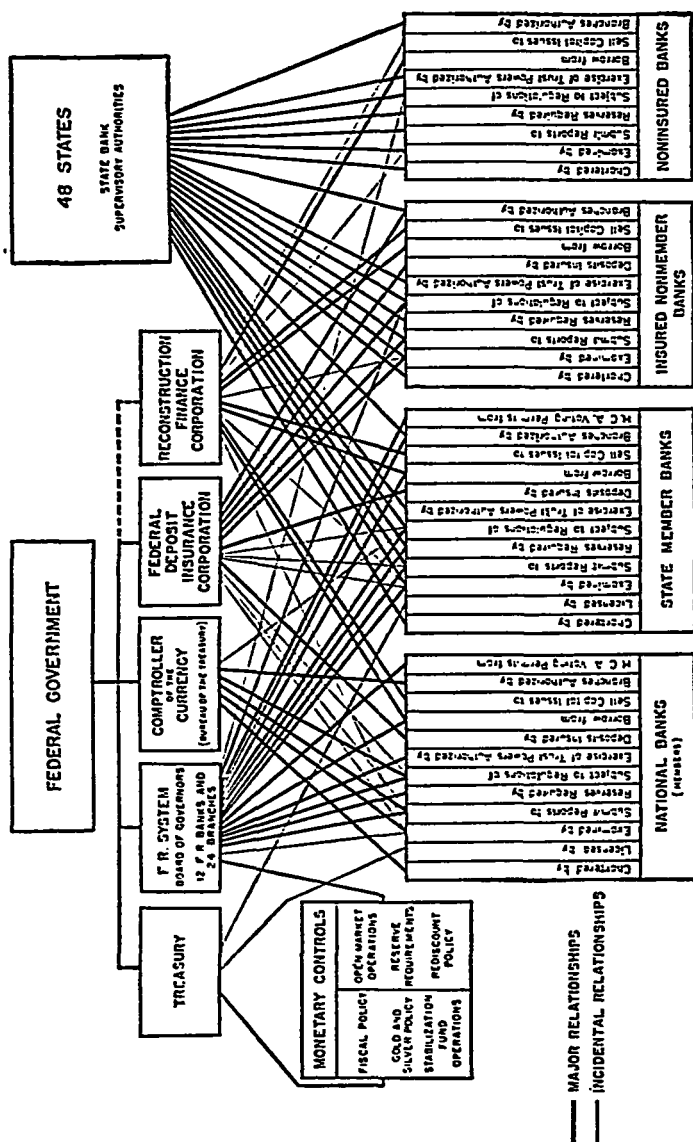
**Relation between supervisory and credit policies.** In the same report the Board raises a number of questions, none of which is answered. Among the questions are the following:

1. What effect does bank supervision have on changes in the outstanding volume of bank credit?
2. What influence do examinations have on the expansion or contraction of credit during the different phases of the business cycle?
3. Should examination policy be so directed as to contribute to the protection of the general economy from the effects of undue expansion or contraction of credit?
4. What distinction, if any, exists between the considerations upon which a sound national credit policy should be based and the measures that should be taken to insure the soundness of individual banks?
5. Is harmony between examination policies and credit policies necessary to the discharge of the responsibilities of the agencies vested with authority to determine these policies?

The third question is particularly interesting because it suggests that examination policies might be used by supervisory authorities to encourage extension of sound credit, when such extension of credit may be helpful to the national economy, and to discourage

<sup>9</sup> *Ibid.*, pp. 15-16.

Fig. 13 PRINCIPAL BANK SUPERVISORY RELATIONSHIPS



Source: Annual Report of the Board of Governors of the Federal Reserve System, 1938, p. 9.



credit extension at other times. A reasonable interpretation of this report, therefore, is that the Board of Governors now believes that authority should be definitely delegated by Congress to some agency to make examination policies coincide with other instruments of control to achieve "increased national economic stability."

**Bank examinations in prosperity and depression.** If bank examinations are clearly to be recognized as an instrument of credit control it seems altogether logical to expect that they should be strict and rigorous in prosperity periods and that they should be less strict in depression periods. When applied to bank loans it would seem reasonable to expect that "slow" loans should be severely criticized in prosperity periods because it is bad policy from the points of view of the bank, the borrower, and the general welfare that a large body of such loans should be carried over into the subsequent period of depression. When applied to the investment portfolios of banks, it seems reasonable to expect that bank examinations should rid the banks of speculative bonds in periods of prosperity when the market prices of those issues are most likely to be high. The higher margin requirements that may be required on loans on securities should also be strictly adhered to in boom periods.

In depression periods, if bank examinations are expected to serve as an instrument of credit control, less strict requirements should be applied to bank loans and investments. In support of this proposition one can cite the situation in the period 1930-1933 when banks were required to dump bonds on a weak market and to foreclose on loans. These actions resulted in a further weakening of the market and a deepening of the depression. Other financial institutions, such as insurance companies, were not required by supervisory authorities to do this, and they could at their discretion "ride out" the depression period while carrying their portfolios at prices above the lowest point in a severely depressed market. If banks had been allowed to follow a similar course doubtless some banks that were forced to close their doors would have been able to withstand the depression and their depositors would not have lost their money. Nor would other people whose assets were further depressed because of widespread unnecessary bank failures have lost so heavily in the depression years.

It is to be admitted, of course, that there are arguments in partial

refutation of the foregoing contention. One cannot be sure at any point in the downswing of the business cycle that the bottom has been reached. If, prior to the bottom of the downturn in the cycle, a very weak and insolvent bank is given aid through liberality in the applications of examination procedures and is permitted to accept deposits, the depositors might suffer greater losses when it eventually fails than they would have taken had it been closed earlier. Nevertheless, good credit policy, including bank examinations and supervision, dictates a general tightening of the terms of credit in boom periods and a relaxation of those terms in depression periods, rather than the reverse of this policy.

### APPRAISAL OF THE INSTRUMENTS OF CREDIT CONTROL

Any attempt to determine the effectiveness of the instruments of credit control of the central banks must first consider just what may be expected from the use of these instruments. If we take the view that central banks should control the level of short-term interest rates and eliminate the seasonal swings in these series, we can readily affirm the success of the instruments. If more ambitious schemes are to be the basis of our appraisal, then the answer can be less definite. During the period of price stability of the 1920's, it was frequently stated that the Federal Reserve Board had succeeded in stabilizing prices. This has since proved false.

Some of the guides which have been suggested would require even more power for their enforcement than is now available in the hands of the monetary authorities. In fact, some of these guides are of such a nature as to require more than monetary control. Many of the significantly disturbing changes in prices are nonmonetary and are, therefore, not amenable to the instruments now held by the central banks. It is questionable whether they could be brought under control by the use of monetary techniques.

Despite the enumeration of the specific weaknesses of each of the instruments of credit control in the hands of the Federal Reserve authorities, it should not be assumed that they are entirely impotent under all circumstances. There may be occasions when one of these instruments, or a combination of them, will produce the desired

effects. Open market operations, for example, have been used effectively to ease strain in the market for government bonds. Higher or lower margin requirements have had a desirable effect on the market for speculative stocks. Higher discount rates have aided in protecting the reserve position of the Federal Reserve banks. In general, a specific instrument may be efficacious in remedying a specific state of the money market, even though it cannot be relied upon in all circumstances.

It must also be admitted that the Federal Reserve System has been able to reduce materially the range of fluctuations of short-term interest rates and regional differences in money rates as compared with the results achieved by the poorly organized banking system of the United States prior to 1914. It has been able to meet unusually severe drains of both internal and external origin with a minimum of disturbance. It must also be observed that the Federal Reserve System's use of its facilities and its instruments of credit control have been of inestimable value to the Treasury in times of war. Perhaps further improvements in the organization of our banking system and further experience in the use of new and old instruments of control will produce more beneficial results in the future. The Federal Reserve System has fulfilled some of the purposes for which it was created; many of its shortcomings should be measured in terms of new demands upon it. The total effect of the use of these instruments has been sufficiently beneficial to justify their continued use. Certainly no one seriously advocates that they all be abandoned.

### STUDY QUESTIONS

1. "The central bank by the use of the traditional instruments of credit control seeks to alter the conditions that face the banker in such manner as to induce him to contract or expand bank credit." Explain.
2. Differentiate *quantitative* and *qualitative* instruments of credit control.
3. Enumerate seven or eight instruments of credit control and state reasons for classifying each of them as a quantitative or a qualitative instrument.
4. Present a theoretical demonstration of the effect of changes in the discount rate of the central bank on the volume of credit and business activity.
5. "During the upturn of business activity, the advantages of borrowing are greater than the disadvantage of a higher interest rate, while

in the downswing of the business cycle the advantages of postponing investment outweigh the favorable interest rate." Explain.

6. "If the discount rate of the central bank is to be effective, changes in the rate must promptly be reflected in all sectors of the money market." Comment.
7. Explain: (a) penalty discount rates and (b) preferential discount rates.
8. Show by means of bookkeeping entries the effects on banks of Federal Reserve purchases and sales in the open market.
9. "Since the chief purpose of open market operations of the Reserve banks in recent years has been to stabilize the market for government securities, this instrument of credit control has not in recent years followed the traditional pattern." Explain.
10. How have open market operations been used to facilitate the financing of war expenditures?
11. "Moral suasion has been used as an instrument of credit control because adequate powers to use selective instruments have been lacking." Comment.
12. For what reasons was moral suasion used by (a) the Federal Reserve Board in 1929 and (b) the Treasury during World War II?
13. Under what conditions are changes in reserve requirements most appropriately made?
14. "Since bank reserves decrease by the same amount that money in circulation increases and money in circulation might increase in a depression period when the Federal Reserve banks are attempting to offset bank credit contraction by open market buying, it is most appropriate to reduce reserve requirements at this time." Do you agree? Explain.
15. "If the Reserve banks should never rediscount anything except commercial paper, excessive bank credit expansion could never take place." Do you agree? Explain.
16. "Eligibility requirements are regarded by Federal Reserve authorities to be as important today as ever before." How might this statement be refuted?
17. Present arguments for the use of selective instruments of credit control.
18. Although bank examinations are not generally recognized to be an instrument of credit control, how might they be used to stabilize the volume of bank credit?

# CHAPTER

## 21

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### THE FEDERAL RESERVE BANKS AND THE MONEY MARKET

**Introduction.** In previous chapters, brief analyses have been presented of possible guides to central bank policy and instruments of credit control. The present chapter is concerned with the relationship between the Federal Reserve banks and the money market, in which relationship the impact of credit policy on bank reserves is revealed. The significance of reserve balances of banks in the management of bank assets has previously been explained, showing that central banks operate chiefly through member-bank reserve balances. The effectiveness of the different instruments of credit policy are judged pretty largely in terms of the degree to which they have had the intended effect on bank reserve balances. Although fiscal operations of the national government and debt management, as well as central bank operations, affect bank reserves and the total money supply of the economy, it is nevertheless true that the supply and use of reserve funds of member banks deserve detailed treatment. In the next chapter, the impact of Treasury operation of the banking system and on the cash balances and liquid asset holdings of the public will be discussed.

The application of the various instruments of control is presumably predicated upon some general theory which is entertained by those persons who formulate policy. The focus of this policy has changed as the Federal Reserve authorities have encountered new problems with changing conditions in the money market and in the

economic system as a whole. We begin, therefore, with a brief statement of the earlier interpretation of the Federal Reserve Act by the Federal Reserve Board and some broad changes in policy in later years, before setting forth a method of analysis of the relationship between the Federal Reserve banks and the money market.

## THE CHANGING CONCEPTS OF FEDERAL RESERVE FUNCTIONS

The Federal Reserve System was designed to overcome the most obvious defects of the banking system which it superseded. Among its chief purposes that of developing a greater degree of elasticity of currency and credit was paramount. This purpose was to be fulfilled through policies formulated "with a view of accommodating commerce and business." The Federal Reserve Board, in oft-repeated statements, preached the doctrine which it was enjoined to adopt as its guide. The Federal Reserve Board said in 1919 that . . . the occasion of the issue of a Federal Reserve note is determined not *by* the bank for itself but *for* the bank by the community."<sup>1</sup>

With respect to the effect of credit upon prices, the Board frequently asserted that the extension of credit was the result, not the cause, of price changes, although it was admitted that "it is difficult to say which is more cause and which is more effect."<sup>2</sup> Thus Federal Reserve credit and notes would flow in and out of the money market as the need for accommodation waxed and waned in accordance with business conditions.

In other words, expansion and contraction of Federal Reserve notes and credit were to be largely automatic in character. Thus we find in the Federal Reserve Act an implied allegiance to a *laissez-faire* doctrine and a counterpart of the automatic functioning of the international gold standard. To be sure, certain "rules of the game" were to be observed. The Federal Reserve banks were obliged to protect bank reserves, to maintain the redeemability of bank notes, and to establish standards by which eligibility of paper for rediscounting could be determined. The philosophy of control, however,

<sup>1</sup> *Federal Reserve Bulletin*, 1919, p. 814.

<sup>2</sup> *Ibid.*, October 1919, pp. 911-912.

was subordinate to the philosophy of accommodation. Such control as might become necessary was to be exercised with a view to maintaining the integrity of the doctrine of accommodation which relied on the good judgment of bankers and businessmen concerning the quantity of credit that should, within the rules, be extended by member banks. This rather literal, perhaps too literal, interpretation of the precepts expressed in the Federal Reserve Act gradually gave way to a philosophy of control just as the foundations of the international gold standard weakened and other departures from a *laissez-faire* economic doctrine became more and more numerous.

Although it is very difficult to differentiate the passive attitude of the Federal Reserve banks which is expressed in the injunction that they formulate policy "with a view of accommodating commerce and business" from active control of the money market, the preponderance of evidence points to the passive attitude as the guiding principle of the Federal Reserve Board during the early years of the Federal Reserve System.

The traditional view of liquidity. The "philosophy of accommodation" which has been described is synonymous with what is often called the "automatic functioning" of the Federal Reserve System in supplying currency and credit to the member banks. The same meaning is conveyed by such expressions as "the essential liquidity of short-term commercial loans." The ideas behind these expressions are in reality a single idea which, for want of a better name, we shall call the "passive" concept of Federal Reserve functions. The assumption that commercial loans are liquid and that other bank loans are not liquid led to legislation and regulations forbidding the rediscounting of any paper other than short-term commercial paper for commercial, productive purposes. This type of paper would, it was assumed, rise and fall in volume as business activity expanded and contracted. Through the rediscounting process, the Federal Reserve banks would more or less automatically expand and contract credit and bank notes with the needs of business.<sup>3</sup> Business would then be accommodated with the desired and desirable volume of legitimate credit.

<sup>3</sup> The phrase "the needs of business" is frequently encountered in descriptions of the functioning of the Federal Reserve System, although it may have little meaning apart from some assumption with respect to a price level.

This traditional view of liquidity of bank assets, which received a great deal of academic support, was inherited by the Federal Reserve System, whose chief purpose it was to provide more adequate machinery for the functioning of the theory. The Federal Reserve System, however, immediately encountered the exigencies of World War I which forced the Reserve authorities and the member banks to deviate from the prevailing concept of ideal banking practice. The close of the war was hailed in banking circles as providing the opportunity to return to sounder practices. The postwar decline in the prices of government bonds and in the values of real estate seemed to lend ample support to the view that commercial banks should adhere strictly to commercial banking. In practice, however, the return to prewar concepts was far from complete, because a tendency toward a decline in commercial paper eligible for rediscount with the Federal Reserve banks became a notable feature of banking in the 1920's.

The trend toward the shiftability theory. Perhaps the chief reason for the decline in commercial loans is that the integration of business firms into larger units has enabled these larger business units to provide themselves with adequate working capital without borrowing from commercial banks. The development of widespread public interest in securities and the ease with which funds could be obtained in the securities markets led business firms to those markets to obtain such funds as they needed. This development was accompanied by (1) a large increase in the loans of commercial banks on securities, (2) the participation of some commercial banks in the underwriting and marketing of long-term securities through their investment affiliates, and (3) the growing reliance of these banks on the ability to shift their assets to the open market.

In 1929, for example, the member banks did not rely upon the rediscounting of customers' paper as a means of further increasing their loans to customers. They relied instead on selling their long-term assets in the open market and adjusting their holdings of short-term open market paper in such manner as to enable them to increase their loans to customers. Most of the increase in customers' loans in that year was in two categories, namely, loans to brokers to accommodate margin account customers and loans to individual borrowers for purchasing and carrying stocks and bonds.



In the period 1920-1929, all national banks increased their investment assets from 42.3 per cent of all earning assets to 61.5 per cent.<sup>4</sup> Holdings of rediscountable paper by all national banks decreased from 30.2 per cent of total loans in 1923 to 20.1 per cent in 1929.<sup>5</sup> Marriner S. Eccles, chairman of the Board of Governors of the Federal Reserve System, testified in the hearings on the Banking Act of 1935 that rediscountable paper held by member banks was estimated at 8 per cent of the total amount of paper held by them in 1935.

At the beginning of the depression of the 1930's, the commercial banks increased their holding of bonds as their loans to customers declined. Evidently it was assumed that high-grade bonds constituted a better protection for deposits than customers' paper. When, however, depositors began to convert their deposit credits into cash in large volume and banks were forced to sell bonds, it soon became clear that a general "shiftability" to the open market with little or no loss was impossible. Ability to shift long-term assets to the open market is possible for the individual bank only so long as some other bank can withstand the withdrawal of deposits with which the "shiftable" assets of the first bank are purchased. Not all banks can do this at the same time. The shiftability theory, which had largely supplanted the earlier reliance on the liquidity of the short-term loans to customers, failed to meet the pragmatic test.

Shiftability to the Federal Reserve banks. In circumstances such as have been outlined, namely, the attempted general shifting of bank assets to the open market in the early 1930's, one of two courses of action might be taken. The liquidation might be allowed to run its course, according to the *laissez-faire* concept, or some central authority might intervene in an attempt to support the existing market values of the current bank loans and investments. Of course, the choice might not be clear-cut, since some liquidation might be allowed to take place or might occur despite attempted market support.

The Banking Act of 1933, passed after a severe slump in business activity and in the market values of most types of property, was

<sup>4</sup> Willis, H. P., *The Theory and Practice of Central Banking*, New York: Harper & Brothers, 1926, p. 119.

<sup>5</sup> *Ibid.*, p. 120.

based on the supposition that the difficulties that were encountered after 1929 were largely the consequences of the departure, in the previous decade, from traditional banking policies. The theory underlying this act was that a return to the concepts embodied in the original Federal Reserve Act would provide the basis for a sound recovery movement. The Banking Act of 1935, however, rejected the liquidity theory inherent in the Banking Act of 1933 and provided for a more complete support by the Federal Reserve banks of the long-term assets of the member banks.<sup>6</sup> This support does not extend to a guarantee against loss to the member banks, but the Reserve banks now may advance funds to member banks on any satisfactory security. In the case of bonds, the new appraisal policies provide that Group I bonds (high-grade investments) may be carried at cost, and that neither depreciation nor appreciation will be shown in computing the net sound capital of a member bank. Government bonds can be used at their par value as security for an advance by a Federal Reserve bank to both member and nonmember banks.

Thus, recent legislation and central bank policy have made it unnecessary for the member banks to rely as completely as before on either the liquidity of their assets or on their shiftability to the open market. Instead they may rely to a greater extent on the shiftability of their assets to the Federal Reserve banks. When banks might wish to sell securities in the open market in order to meet an emergency, it has become the policy of the Federal Reserve banks to influence the market so as to prevent, as far as possible, the liquidation of member bank and nonmember bank assets under adverse market conditions.

A recognition of the necessity of this policy was made by the Board of Governors in its annual report for 1939. The outbreak of the war in Europe in September 1939 was accompanied by fears of a disturbance in the market for United States government securities. The action of the Board of Governors in this situation is set forth clearly in the following quotation from its 1939 report:

In undertaking large-scale open-market operations in September 1939, the System was guided principally by the following considerations:

(1) By helping to maintain orderly conditions in the market for United States Government securities the System can exert a steadying

<sup>6</sup> See *Senate Hearings on the Banking Act of 1935*, pp. 209-236.

influence on the entire capital market, which is an essential part of the country's economic machinery, and disorganization in which would be a serious obstacle to the progress of economic recovery. The market for United States Government securities is the only part of the capital market in which the System is authorized by law to operate, and Government securities occupy a vital place in that market.

(2) The System also has a measure of responsibility for safeguarding the large United States Government portfolio of the member banks from unnecessarily wide and violent fluctuations in price. The System cannot and does not guarantee any current prices of Government obligations, nor does it undertake to preserve for member banks such profits as they may have on their Government securities, or to protect them against losses in this account. The Government security market, however, has become in recent years the principal part of the money market, and member banks are in the habit of adjusting their cash positions through sales and purchases of United States Government securities. This practice has arisen partly because of a shrinkage in the availability of other liquid assets, such as Street loans and bankers' acceptances, which in earlier years were in much larger volume and were the medium through which banks were likely to adjust their positions. In the enhanced importance of the Government portfolio to member banks, the System sees an additional reason for exerting its influence against undue disturbances in Government security prices.<sup>7</sup>

Shiftability to Reserve banks during World War II. Since most Federal Reserve policies and operations during World War II were closely connected with Treasury operations and policies, we shall discuss them in greater detail in the next chapter, entitled "The Treasury and the Money Market." Here, we shall carry our discussion of shiftability of member bank assets to the Reserve banks into the most recent period of war financing and make some observations on its effects on traditional central banking policy.

These observations focus attention on the theory that the instruments of credit control in the hands of Federal Reserve authorities are effective in so far as they effect changes in the reserve position of member banks in the desired direction. The workability of this method of controlling the quantity of credit had been weakened before World War II by the existence of huge excess reserve balances in the possession of member banks. Langum called attention in December 1939 to the fact that should reserve require-

<sup>7</sup> *Annual Report of the Board of Governors of the Federal Reserve System*, 1939, pp. 5-6.

ments be raised to the fullest extent permissible and should the Reserve banks sell all their holdings of government securities in the open market that member banks would still hold excess reserves great enough to provide a base for a considerable expansion of bank credit.<sup>8</sup> High excess reserves, therefore, make difficult the task of the Federal Reserve authorities to induce contraction, if it is their will to do so, when at the same time it is the will of the commercial banks to expand credit. In periods of contraction, continuous additions to excess reserve probably signify the will of banks to contract credit while, at the same time, the Reserve authorities are likely attempting to induce expansion of bank credit.

During World War II the exigencies of the situation impelled the Board of Governors to lend support to the market for government securities and thus to help the Treasury hold interest rates at a low level. A stable market for government securities at low rates was assured when the Federal Reserve banks announced their readiness to buy Treasury bills and certificates at guaranteed rates. This commitment to the Treasury was entirely appropriate to the ends in view, but it also guaranteed the member banks a sure means of obtaining reserves at their option or discretion. Obviously, the adoption of a procedure whereby banks can gain reserves at their option at any time compromises the implementation of policy that calls for a contraction of bank reserve balances. In periods of depression when policy is designed to induce bank credit expansion, the Federal Reserve System can do no more than it has already done to make Federal Reserve credit readily available, so long as banks have ample stocks of government securities in their portfolios.

After making substantially the same observations, Whittlesey concludes that

Changes in the discount rate, open market operations, and changes in reserve requirements may continue to serve a useful purpose in steadying the market for Government securities or facilitating the adjustment of reserve balances; but for effecting fine adjustments in the volume of member bank balances as a means of accurately limiting the volume of credit, their usefulness, whatever it may have been in the past, is lost, unless and until conditions change drastically from what they are today.<sup>9</sup>

<sup>8</sup> Langum, John K., "Federal Reserve Open-Market Policy, 1934-1939," *Financial and Investment Review*, December 1939.

<sup>9</sup> Whittlesey, Charles R., "Federal Reserve Policy in Transition," *Quarterly Journal of Economics*, May 1946, p. 345.

influence on the entire capital market, which is an essential part of the country's economic machinery, and disorganization in which would be a serious obstacle to the progress of economic recovery. The market for United States Government securities is the only part of the capital market in which the System is authorized by law to operate, and Government securities occupy a vital place in that market.

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<sup>7</sup> *Annual Report of the Board of Governors of the Federal Reserve System, 1939*, pp. 5-6.

ments be raised to the fullest extent permissible and should the Reserve banks sell all their holdings of government securities in the open market that member banks would still hold excess reserves great enough to provide a base for a considerable expansion of bank credit.<sup>8</sup> High excess reserves, therefore, make difficult the task of the Federal Reserve authorities to induce contraction, if it is their will to do so, when at the same time it is the will of the commercial banks to expand credit. In periods of contraction, continuous additions to excess reserve probably signify the will of banks to contract credit while, at the same time, the Reserve authorities are likely attempting to induce expansion of bank credit.

During World War II the exigencies of the situation impelled the Board of Governors to lend support to the market for government securities and thus to help the Treasury hold interest rates at a low level. A stable market for government securities at low rates was assured when the Federal Reserve banks announced their readiness to buy Treasury bills and certificates at guaranteed rates. This commitment to the Treasury was entirely appropriate to the ends in view, but it also guaranteed the member banks a sure means of obtaining reserves at their option or discretion. Obviously, the adoption of a procedure whereby banks can gain reserves at their option at any time compromises the implementation of policy that calls for a contraction of bank reserve balances. In periods of depression when policy is designed to induce bank credit expansion, the Federal Reserve System can do no more than it has already done to make Federal Reserve credit readily available, so long as banks have ample stocks of government securities in their portfolios.

After making substantially the same observations, Whittlesey concludes that

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<sup>8</sup> Langum, John K., "Federal Reserve Open-Market Policy, 1934-1939," *Financial and Investment Review*, December 1939.

<sup>9</sup> Whittlesey, Charles R., "Federal Reserve Policy in Transition," *Quarterly Journal of Economics*, May 1946, p. 345.

The rate at which member banks can procure accommodation at the Reserve banks is also relevant to this discussion. If in a period of expansion, banks hold huge quantities of the  $\frac{1}{2}$  per cent Treasury certificates that can be sold to the Reserve banks at par, that rate and not a higher one is the rate at which Federal Reserve credit can be obtained.

These observations do not necessarily lead to the conclusion that the Federal Reserve System's influence in the money market is weakened, for certainly its power to maintain a structure of rates on government securities has been demonstrated. Other instruments than those that operate through the reserve balances of banks are still operative. As cases in point, the determination of margin requirements can be used in periods of speculative excesses, and regulations over consumer credit can also be invoked as long as Congress permits their use. Also, moral suasion might still be effective.

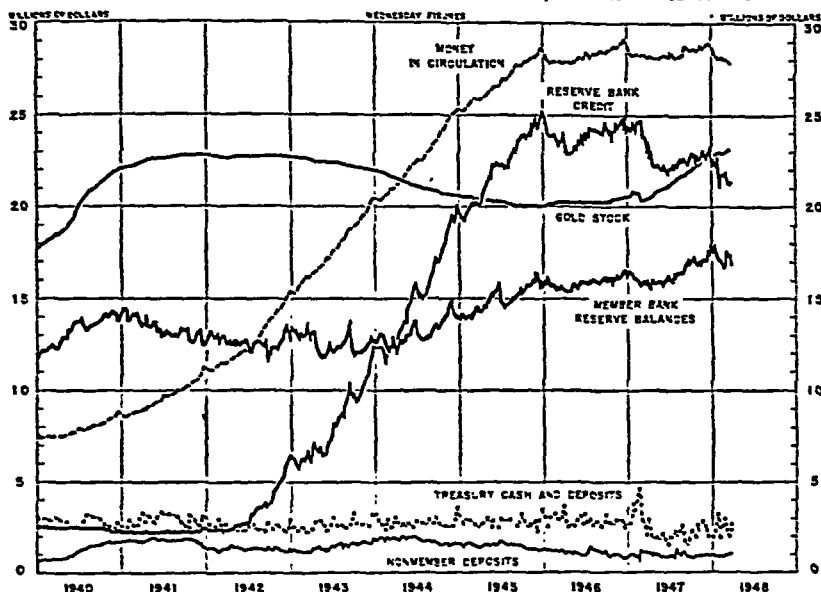
It seems, therefore, that the present maintenance of a fixed pattern of interest rates on Treasury obligations has resulted in a shift from reliance on the more traditional instruments that operate through the reserve balances of banks to greater reliance on the selective instruments of credit control.

## MEMBER BANK RESERVES, RESERVE BANK CREDIT, AND RELATED ITEMS

**Introduction.** On Friday morning of each week, there are published in many newspapers the "Wednesday figures" of the principal assets and liabilities of the Federal Reserve banks. This is one of a series of data issued by the Federal Reserve System, which series comprise the most complete statement of operation of any central banking system in the world. Other significant figures are those relating to the use of funds by the commercial banks, which are published in the *Federal Reserve Bulletin* monthly under the title, "All Insured Commercial Banks in the United States, Loans, Investments, Reserves and Liabilities." These two series are supplemented by another series called "Member Bank Reserves, Reserve Bank Credit and Related Items" which is the most useful series for our present purposes.

Chart 15

MEMBER BANK RESERVES, RESERVE BANK CREDIT, AND RELATED ITEMS



Source: *Federal Reserve Bulletin*, April, 1948, p. 406.

Member bank reserves and related items. In order to show the items that compose the series with which we are concerned, Chart 15 is presented which is a graphical presentation of changes in gold stock, member bank reserve balances, money in circulation, Reserve bank credit, Treasury cash, and Treasury deposits. A tabular presentation, which also appears monthly in the *Federal Reserve Bulletin*, is more complete than the graph of Member Bank Reserve and Related Items. A part of page 701 of the *Federal Reserve Bulletin* for June 1947, is reproduced as Table 37.

From Table 37 the following figures are derived:

	April 30, 1946	April 30, 1947
Discounts and advances	\$ 279,000,000	\$ 125,000,000
U.S. Government securities	22,732,000,000	21,857,000,000
All other securities	346,000,000	223,000,000
Gold stock	20,251,000,000	20,774,000,000
Treasury currency outstanding	4,537,000,000	4,561,000,000
Money in circulation	27,885,000,000	28,114,000,000
Treasury cash holdings	2,263,000,000	1,329,000,000
Treasury deposits with Federal Reserve banks	679,000,000	619,000,000
Nonmember deposits	1,166,000,000	1,025,000,000
Other Federal Reserve accounts	547,000,000	627,000,000
Member bank reserve balances	15,606,000,000	15,826,000,000



TABLE 37

MEMBER BANK RESERVES, RESERVE BANK CREDIT, AND RELATED ITEMS  
[In millions of dollars]

Date	Reserve Bank credit outstanding						Treasury currency outstanding	Money in circulation	Treasury cash holdings	Treasury deposits with Federal Reserve banks	Non-member deposits	Other Federal Reserve accounts	Member bank reserve balances	
	Discounts and advances	U. S. Government securities			All other	Total							Total	Excess
		Total	Treasury bills and certificates	All other										
Monthly averages of daily figures: 1946														
Feb.	367	23,150	20,811	2,340	417	23,934	20,197	2,307	856	1,248	517	15,685	1,131	
Mar.	566	22,549	20,243	2,307	418	23,533	20,237	2,274	809	1,176	536	15,536	1,031	
Apr. 1947	433	22,260	19,855	2,406	376	23,070	20,252	2,261	448	1,120	550	15,531	1,024	
Feb.	339	23,824	22,690	1,135	438	24,601	20,726	2,214	1,895	846	623	16,006	805	
Mar.	307	22,978	21,831	1,147	436	23,721	20,406	1,332	1,344	1,097	633	16,006	871	
Apr.	208	22,104	20,998	1,105	411	22,722	20,586	1,329	723	1,060	639	15,931	833	

Source: Federal Reserve Bulletin, June 1947, p. 701.

TABLE 37 (Continued)

## MEMBER BANK RESERVES, RESERVE BANK CREDIT, AND RELATED ITEMS (Continued)

[In millions of dollars]

Date	Reserve Bank credit outstanding						Gold stock	Treas-ury currency outstanding	Money in cir-cula-tion	Treas-ury cash holdings	Treas-ury de-posits with Federal Reserve banks	Non-member de-posits	Other Fed-eral Reserve ac-counts	Member bank reserve balances	
	Dis-counts and ad-vances	U. S. Government securities			All other	Total								Ex-cess	
		Total	Treas-ury bills and certi-ficates	All other											
End of month figures: 1940															
Feb. 28	347	22,904	20,584	2,320	397	23,648	20,232	4,451	27,954	2,301	\$29	1,193	519	15,537	1,014
Mar. 30	626	22,601	20,234	2,366	403	23,630	20,256	4,480	27,879	2,283	1,593	1,213	540	14,853	927
Apr. 30	279	22,732	20,166	2,566	346	23,357	20,251	4,537	27,885	2,263	679	1,166	547	15,600	959
1947															
Feb. 28	356	24,117	22,919	1,198	373	24,846	20,330	4,558	28,304	1,317	2,491	1,103	624	15,805	847
Mar. 31	538	22,593	21,488	1,105	300	23,431	20,463	4,559	28,230	1,336	2,014	971	638	15,264	344
Apr. 30	125	21,857	20,752	1,105	223	22,205	20,774	4,561	28,114	1,320	619	1,025	627	15,826	654

Source: Federal Reserve Bulletin, June 1947, p. 701.

The changes in these data may be computed in terms of funds made available to the money market and funds withdrawn from the money market. The factors so described are equivalent to factors supplying reserve funds and factors using reserve funds, as follows:

Funds were made available to the money market through

1. An increase in gold stock	\$ 523,000,000
2. An increase in Treasury currency outstanding	24,000,000
3. A decrease in Treasury cash holdings	934,000,000
4. A decrease in Treasury deposits with Federal Reserve banks	60,000,000
5. A decrease in nonmember deposits	141,000,000
Total	<u>\$1,682,000,000*</u>

Funds were withdrawn from the money market through

1. A decrease in discounts and advances	\$ 154,000,000
2. A decrease in government securities held by Federal Reserve banks	875,000,000
3. A decrease in other securities held by Federal Reserve banks	123,000,000
4. An increase in money in circulation	229,000,000
5. An increase in other Federal Reserve accounts	80,000,000
Total	<u>\$1,461,000,000*</u>

The difference between the factors of supply and factors of use in reserve funds is reflected in an increase in member bank reserve balances \$ 220,000,000\*

\* Failure of figures to balance is due to rounding of figures in millions of dollars.

These items form a consolidated statement, combining the "Statement of Condition of the Federal Reserve Banks" with such items in the Treasury "Circulation Statement of United States Money" as have a direct relationship to the supply of or demand for reserve funds. The items are all interrelated, and changes in any one of them can be accounted for by balancing changes in all the others. The sum of total Reserve bank credit (discounts and advances, and securities held by the Reserve banks), gold stock, and Treasury currency equals the sum of the other items. The first three may be considered as primary sources of reserve funds and the others as reflecting uses made of these funds.<sup>10</sup> The following explanations are condensations of the rather exhaustive descriptions of the items of member bank reserves and related items contained in *Banking and Monetary Statistics*.<sup>11</sup>

<sup>10</sup> See *Banking and Monetary Statistics*, Board of Governors of the Federal Reserve System, 1948, pp. 360-361.

<sup>11</sup> *Ibid.*, pp. 360-366.

*Descriptions of the various items.* The items may be classified according to whether changes in them are primarily and directly caused by actions of the Federal Reserve banks or caused by actions in which the Federal Reserve banks are passive. Changes in money in circulation, gold movements, Treasury cash, and Treasury deposits with the Federal Reserve banks occur as a result of actions not directly controlled by the Reserve banks. Changes in which the initiative is supplied by the Federal Reserve banks are illustrated by Reserve bank purchases of securities in the open market.

*Discounts and advances* include bills discounted, bills bought, and industrial advances. Bills discounted represent chiefly rediscounts for and advances to member banks which borrow in order to maintain adequate reserve balances. At times, this item includes loans on gold to foreign central banks, and advances to nonmember banks, to Federal intermediate credit banks, and to individuals, partnerships, and corporations. Bills bought represent bankers' and trade acceptances purchased by the Federal Reserve banks from bill dealers or banks, either outright or under resale agreements, and acceptances payable in foreign currencies purchased from foreign central banks and guaranteed by them. The Federal Reserve banks generally buy all satisfactory bills offered them at an established rate. Industrial advances represent advances made for the purpose of providing working capital to industrial and commercial concerns in accordance with the provisions of Section 13b, enacted in 1934. *An increase in discounts and advances makes funds available to the money market, while a decrease in this item withdraws funds from the money market.*

*United States Government securities held by the Reserve banks* are purchased in the open market on their own initiative. Since 1922, most of these securities have been held in a System investment account, which is participated in by all of the Federal Reserve banks. *An increase in government securities held increases the funds available to the money market, while a decrease in this item withdraws funds from the money market.*

*Other Reserve bank credit* includes funds held on deposit in foreign banks; other securities, such as Federal intermediate credit bank debentures and municipal warrants; and Federal Reserve bank float. This "float" arises from transit items that are credited to the accounts

of depositing banks prior to actual collection by the Reserve bank. *An increase in this item makes funds available to the money market, while a decrease in it results in a withdrawal of funds from the money market.*

*Gold stock* includes at the present time only gold held by the Treasury. Prior to January 30, 1934, monetary gold stock included gold held by the Treasury and by the Federal Reserve banks (except gold held under earmark for foreign account) and also gold coin in circulation in the United States. On January 30, 1934, title to all gold held by the Federal Reserve banks was transferred to the United States Government. The Federal Reserve banks now hold gold certificates, or gold certificate credits, on the books of the Treasury against which the Treasury holds gold. There is no circulation of gold coin, and all imports, exports, and changes in earmarkings of gold are immediately reflected in Treasury holdings. *An increase in gold stock makes funds available to the money market, while a decrease in this item withdraws funds from the money market.*

*Treasury currency* represents the stock of money for which the Treasury is primarily responsible and comprises standard silver dollars, silver certificates, Treasury notes of 1890, subsidiary silver and minor coin, United States notes, and those national bank notes and Federal Reserve bank notes for the retirement of which funds have been deposited with the Treasurer of the United States. Treasury currency outstanding includes the currency of the kinds mentioned held in the Treasury and the Federal Reserve banks as well as the quantity in circulation. *An increase in this item makes funds available to the money market, while a decrease withdraws funds from the money market.*

*Money in circulation* includes all kinds of United States money outside the Treasury and the Federal Reserve banks, with the exception of all gold coin outstanding and silver and gold coin known to have been exported. The figure for money in circulation, therefore, includes not only money held by the public but vault cash held by banks and such United States money as may have been carried or shipped abroad, except gold and silver coin known to have been exported. Since member banks obtain money to hold or to pay out to customers by drawing on their reserve balances, *increases in*

*money in circulation cause corresponding decreases in reserve balances, and decreases in money in circulation have the opposite effect.*

*Treasury cash holdings* include gold bullion, silver and minor coin, and currency held in the Treasury, except gold and silver held against gold and silver certificates. The most important element in Treasury cash is gold bullion held in an inactive account against which gold certificates have not been issued. There is a definite interrelationship of Treasury cash, Treasury currency outstanding, and Treasury deposits with the Federal Reserve banks. Increases in one factor may be offset by the exact amount of the decreases in the others. Taken by itself, *an increase in Treasury cash withdraws funds from the money market, while a decrease in this item makes funds available to the money market.*

*Treasury deposits with the Federal Reserve banks* represent the general account of the Treasurer of the United States with the Federal Reserve banks. It is often called the Treasury's checking account. *An increase in Treasury deposits with the Federal Reserve banks withdraws funds from the money market, while a decrease in this item makes funds available to the money market.*

Treasury currency, Treasury cash, Treasury deposits, gold stock, and money in circulation are interrelated in such manner that important changes often take place among these items without affecting the total volume of member bank reserve balances. For example, the item "Treasury cash" was increased \$2.8 billion on January 31, 1934, as a result of the devaluation of the dollar, but the value of gold stock was written up by a like amount. These entries, which offset each other, had no effect on member bank reserve balances. The interrelationship of these items is also shown by the entries made when the Treasury buys newly mined silver. The Treasury may pay for it by drawing a check on its deposit with the Federal Reserve banks, thereby reducing its balance in that account, while the reserve balance of the bank that receives that check is credited by the amount of that check. After the consummation of this transaction, changes may take place in the various Treasury accounts without any further effect on member bank reserve balances. For example, the Treasury may hold the silver it has purchased as Treasury cash. (In other transactions, gold may be held as Treasury cash.) If the Treasury should issue silver certificates against silver bullion

and deposit them with the Federal Reserve banks, Treasury cash would decline and Treasury deposits with the Federal Reserve banks would increase. These latter entries have no effect on member bank reserves until the Treasury again draws on Treasury deposits in favor of member banks or the public.

*Nonmember deposits* represent all deposits with the Federal Reserve banks other than the general account of the United States Treasurer and member bank reserve balances. The accounts of banks of the United States that are not members of the Federal Reserve System, which accounts are held mostly to settle clearing balances, are included in this item, together with deposits of foreign central banks and foreign governments. Reserve bank officers' checks and the account maintained by the Treasury for the Stabilization Fund are also a part of this item. *An increase in this item withdraws funds from the money market, while a decrease in this item makes funds available to the money market.*

*Other Federal Reserve accounts.* This item is derived from the condition statement of the Federal Reserve banks by adding "capital," "surplus," "other capital accounts," and "other liabilities" of the Reserve banks, and subtracting the sum of "bank premises" and "other assets." *An increase in this item withdraws funds from the money market, while a decrease in this item makes funds available to the money market.*

*Member bank reserve balances* represent balances actually held by member banks at Federal Reserve banks, and are the only balances which may be counted as legal reserves. When the factors of increase in funds available to the money market, described above, exceed in volume the factors of decrease, reserve balances of member banks increase. Conversely, changes in these items that result in net withdrawals from the money market are reflected in a decline in member bank reserve balances.

## MEMBER BANK STATISTICS

**Member Bank Call Report.** The member banks of the Federal Reserve System are required to submit a minimum of three condition reports annually which are published by the Board of Governors under the title *Member Bank Call Report*. These reports contain the

combined statistics of national banks, tabulated by the Comptroller of the Currency, and of the state member banks tabulated by the Board of Governors. The table of contents of a recent issue of the *Member Bank Call Report* reveals the scope and nature of the statistics contained therein: <sup>12</sup>

**Assets and liabilities:**

Of all member banks June 29, 1946, December 31, 1945, and June 30, 1945

Of all member banks on selected call dates, 1941-1946

By class of bank

By Federal Reserve districts

**Classification of loans and United States Government obligations:**

Of all member banks on selected call dates, 1941-1946

By class of bank

By Federal Reserve districts

Of reserve city and country member banks, by Federal Reserve districts

Assets and liabilities of member banks in each central reserve and reserve city and of country banks in each Federal Reserve district

Assets and liabilities of member banks by states

Reserve position by class of bank and Federal Reserve districts

Assets and liabilities of state member banks by Federal Reserve districts

These statistical series, together with the series mentioned earlier, *Federal Reserve Bank Credit and Related Items*, furnish the statistical bases for analyses of changes in monetary and banking phenomena from time to time and of the applications of Federal Reserve policy to the changing situations. It is our present task to make some analyses of Federal Reserve policies in selected periods, using the aforementioned statistical series in making these analyses.

## ANALYSIS OF FEDERAL RESERVE POLICIES IN SELECTED PERIODS, 1928-1946

The period October 3, 1928 to October 4, 1929. This period was characterized by a high level of business activity and a great stock

<sup>12</sup> *Member Bank Call Report, Number 102, Condition of Member Banks, June 29, 1946.*



market boom. Since we know that there followed a collapse in the prices of securities, a sharp decline in the price level, and great unemployment, a relevant question is whether or not the Federal Reserve System contributed to the boom, and in part caused the subsequent collapse. In seeking an answer, let us first investigate "Federal Reserve bank credit and related items" for the period.

Table 38 shows that Reserve bank credit did not expand but rather contracted in the period under investigation. The contraction of Reserve bank credit, however, was in large part offset by an increase in monetary gold stock. The net effect of the factors of

TABLE 38

## FEDERAL RESERVE BANK CREDIT AND RELATED ITEMS

[October 3, 1928 to October 4, 1929]

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Funds were made available to the money market through

1. An increase in monetary gold stock	\$249,000,000
2. An increase in other Federal Reserve bank credit	21,000,000
3. A decrease in Treasury cash holdings	2,000,000
4. A decrease in nonmember deposits	4,000,000
Total	<u>\$276,000,000</u>

Funds were withdrawn from the money market through

1. A decrease in bills discounted	\$128,000,000
2. A decrease in bills bought	13,000,000
3. A decrease in United States securities	97,000,000
4. An increase in currency in circulation	32,000,000
5. An increase in Treasury deposits with Federal Reserve banks	3,000,000
6. An increase in other Federal Reserve accounts	50,000,000
Total	<u>\$323,000,000</u>

Member-bank reserve balances decreased

\$ 49,000,000

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Derived from the following data which are found in the *Annual Report of the Board of Governors*, 1937, pp. 47-48.

<i>Reserve Bank Credit and Related Items</i>	<i>Oct. 3, 1928</i>	<i>Oct. 4, 1929</i>
Bills discounted	\$1,026,000,000	\$ 898,000,000
Bills bought	310,000,000	297,000,000
United States Government securities	231,000,000	134,000,000
Other Reserve bank credit	64,000,000	85,000,000
Gold stock	3,838,000,000	4,087,000,000
Treasury currency outstanding	2,010,000,000	2,010,000,000
Currency in circulation	4,520,000,000	4,552,000,000
Treasury cash holdings	206,000,000	204,000,000
Treasury deposits with Federal Reserve banks	33,000,000	36,000,000
Nonmember deposits	32,000,000	28,000,000
Other Federal Reserve accounts	339,000,000	389,000,000

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increase and of decrease was a reduction of about \$49,000,000 in member bank reserve balances. This amount is so small that one might charge the Federal Reserve Board with failure to withdraw funds from the money market in quantities sufficient to cause contraction in member bank credit, without, at the same time, charging it with direct responsibility for the boom.

Table 39, Loans and Investments of Member Banks, October 3, 1928, to October 4, 1929, reveals the significant fact that member

**TABLE 39**  
**LOANS AND INVESTMENTS OF MEMBER BANKS**  
[October 3, 1928 to October 4, 1929]

Loans to customers		
(except banks)—total		Increased \$2,009,000,000
To brokers outside New York City	+ \$ 89,000,000	
To others on securities	+ 1,374,000,000	
Real estate loans	+ 63,000,000	
Otherwise secured and unsecured	+ 481,000,000	
Open-market loans—total		Decreased \$ 261,000,000
Acceptances payable in the United States	+ \$ 13,000,000	
Bills payable abroad	— 31,000,000	
Commercial paper bought	— 229,000,000	
Loans to brokers in New York City	— 14,000,000	
Investments—total		Decreased \$ 855,000,000
United States Government securities	— \$ 364,000,000	
Other securities	— 491,000,000	
Loans to banks—total		Increased \$ 92,000,000
Loans and investments—total		Increased \$ 985,000,000

Derived from the following data which are taken from the *Annual Report of the Board of Governors*, 1936, p. 132:

<i>Loans and Investments of Member Banks</i>	<i>Oct. 3, 1928</i>	<i>Oct. 4, 1929</i>
Total loans and investments	\$84,929,000,000	\$85,914,000,000
Total loans to customers	21,240,000,000	23,249,000,000
To brokers outside New York City	850,000,000	939,000,000
To others on securities	5,796,000,000	7,170,000,000
Real estate loans	3,089,000,000	3,152,000,000
Otherwise secured and unsecured	11,507,000,000	11,988,000,000
Loans to banks	548,000,000	640,000,000
Acceptances payable in United States	80,000,000	93,000,000
Bills payable abroad	101,000,000	70,000,000
Commercial paper bought	457,000,000	228,000,000
Loans to brokers in New York City	1,899,000,000	1,885,000,000
United States government securities	4,386,000,000	4,022,000,000
Other securities	6,218,000,000	5,727,000,000

banks expanded loans to customers in the amount of \$2,009,000,000. The largest single item in this increase in bank loans to customers was in loans on securities. Evidently, moral suasion by which the Federal Reserve Board sought to discourage loans for speculative purposes by member banks did not accomplish its purpose. Since member banks did not draw on Federal Reserve credit to obtain funds to lend to customers on securities, from what source did member banks obtain such funds? The answer seems to lie in the fact that banks merely shifted the form of credit from investments to loans to customers. Although the act of banks' selling bonds in the open market does not provide them with new money, it does provide a means of shifting from bond investments to customers' loans, as was done in 1929. That new money was not being created in significant volume is shown by the fact that total deposits and currency in circulation showed very little change in the period under survey.

The chief purpose in selecting this period for analysis is to reveal the possibility of a shift on the part of member banks from one form of bank credit (investment holdings) to another (loans on securities) without recourse to Federal Reserve bank credit.

The period October 4, 1929, to September 24, 1930. The purpose served by selecting this period for analysis is to show changes in loans and investments of member banks at the beginning of a period of depression.

The most significant changes in Table 40 are: (1) the increase in Federal Reserve bank holdings of government securities after the stock market crash, (2) the decrease in money in circulation, (3) the use of funds made available to the money market for the purpose of retiring member bank indebtedness to the Reserve banks, (4) the decline in bill holdings of the Reserve banks, and (5) the building up of member bank reserve balances.

A study of Tables 40 and 41 reveals that member banks, in the first year after the stock market crash, adopted a policy of reducing their indebtedness to the Federal Reserve banks instead of lending more freely to customers at lower rates of interest. The causes of the decline in loans to customers in this period are probably to be found both on the lending side and on the borrowing side of credit transactions. On the lending side, many banks doubtless were "calling" loans to customers and investing in corporate bonds on the theory

that bonds provided less risky uses of bank funds. It doubtless is also true that many business firms and individuals, following a policy of retrenchment in their business operations, were seeking less credit from banks.

It is interesting to note that bond prices were weak in 1929 when banks were selling bonds and expanding loans to customers, and that bond prices were strong in 1930 when banks were buying bonds

TABLE 40

FEDERAL RESERVE BANK CREDIT AND RELATED ITEMS  
[October 4, 1929 to September 24, 1930]

Funds were made available to the money market through	
1. An increase in Federal Reserve bank holdings of United States government securities	\$ 463,000,000
2. A decrease in currency in circulation	404,000,000
3. An increase in gold stock	132,000,000
4. An increase in Treasury currency outstanding	16,000,000
5. A decrease in nonmember deposits	3,000,000
Total	<u>\$1,023,000,000</u>
Funds were withdrawn from the money market through	
1. A decrease in bills discounted	\$ 731,000,000
2. A decrease in bills bought	99,000,000
3. A decrease in other Federal Reserve bank credit	61,000,000
4. An increase in Treasury cash holdings	9,000,000
5. An increase in Treasury deposits with Federal Reserve banks	7,000,000
6. An increase in other Federal Reserve accounts	2,000,000
Total	<u>\$ 909,000,000</u>
Member-bank reserve balances increased	<u>\$ 115,000,000</u>

Compiled from the following data which are found in the *Annual Report of the Board of Governors*, 1937, pp. 47-48:

<i>Reserve Bank Credit and Related Items</i>	<i>Oct. 4, 1929</i>	<i>Sept. 24, 1930</i>
Bills discounted	\$ 898,000,000	\$ 167,000,000
Bills bought	297,000,000	198,000,000
United States Government securities	134,000,000	602,000,000
Other Federal Reserve bank credit	85,000,000	24,000,000
Gold stock	4,087,000,000	4,219,000,000
Treasury currency outstanding	2,010,000,000	2,026,000,000
Currency in circulation	4,552,000,000	4,148,000,000
Treasury cash holdings	204,000,000	213,000,000
Treasury deposits with Federal Reserve banks	36,000,000	43,000,000
Nonmember deposits	28,000,000	25,000,000
Other Federal Reserve accounts	389,000,000	391,000,000
Member-bank reserve balances	2,301,000,000	2,416,000,000

TABLE 41

## LOANS AND INVESTMENTS OF MEMBER BANKS

[October 4, 1929 to September 24, 1930]

Loans to customers		
(exclusive of banks)—total		Decreased \$2,239,000,000
Secured by stocks and bonds to brokers outside New York City	— \$ 165,000,000	
To others on securities	— 80,000,000	
Secured by farmland	— 5,000,000	
Secured by other real estate	+ 16,000,000	
Otherwise secured and unsecured	— 2,006,000,000	
Open-market loans—total		Increased \$ 986,000,000
Purchased acceptances payable in the United States	+ \$ 112,000,000	
Purchased acceptances, etc., payable abroad	— 8,000,000	
Commercial paper purchased	+ 295,000,000	
Street loans	+ 587,000,000	
Investments—total		Increased \$ 985,000,000
United States government securities	+ \$ 73,000,000	
Other securities	+ 912,000,000	
Loans to banks—total		Decreased \$ 174,000,000
Loans and investments—total		Decreased \$ 442,000,000

Compiled from the following data which are found in the *Annual Report of the Board of Governors*, 1936, p. 132:

<i>Loans and Investments of Member Banks</i>	<i>Oct. 4, 1929</i>	<i>Sept. 24, 1930</i>
Total loans and investments	\$35,914,000,000	\$35,472,000,000
Total loans to customers	23,249,000,000	21,010,000,000
To brokers outside New York City	939,000,000	774,000,000
To others on securities	7,170,000,000	7,090,000,000
Real estate loans	3,152,000,000	3,163,000,000
Otherwise secured and unsecured	11,988,000,000	9,982,000,000
Loans to banks	640,000,000	466,000,000
Acceptances payable in United States	93,000,000	205,000,000
Bills payable abroad	70,000,000	62,000,000
Commercial paper bought	228,000,000	523,000,000
Loans to brokers in New York City	1,885,000,000	2,472,000,000
United States government securities	4,022,000,000	4,095,000,000
Other securities	5,727,000,000	6,639,000,000

and contracting loans to customers. Later in the depression period, beginning in September 1931, bond prices fell again as banks were forced to sell bonds, this time in order to meet the rush of customers who were withdrawing deposits in large total volume. The rise in the yields on Aaa (Moody's rating) corporate bonds to nearly 5½

per cent in May 1932 from a level less than 4½ per cent a year earlier reflects a great loss on bond sales made at that time.

The period December 31, 1938, to December 30, 1939. This period is characterized by a great increase in gold stock and little net change in Reserve bank credit.

The most significant items of Federal Reserve bank credit and related items in 1939, as shown by Table 42, were: (1) the great

TABLE 42

FEDERAL RESERVE BANK CREDIT AND RELATED ITEMS

[December 31, 1938 to December 30, 1939]

Funds were made available to the money market through		
1. An increase in bills discounted	\$	3,000,000
2. An increase in other Federal Reserve bank credit		69,000,000
3. An increase in gold stock		3,132,000,000
4. An increase in Treasury currency outstanding		165,000,000
5. A decrease in Treasury cash holdings		297,000,000
6. A decrease in Treasury deposits with Federal Reserve banks		289,000,000
7. A decrease in other Federal Reserve accounts		9,000,000
Total		\$3,965,000,000
Funds were withdrawn from the money market through		
1. A decrease in bills bought	\$	1,000,000
2. A decrease in United States Government securities		80,000,000
3. An increase in money in circulation		742,000,000
4. An increase in nonmember deposits		212,000,000
5. An increase in member-bank reserve balances		2,929,000,000
Total		\$1,055,000,000
Member-bank reserve balances increased		\$2,929,000,000

Compiled from data in the *Federal Reserve Bulletin*, March 1940, p. 213:

Reserve Bank Credit and Related Items	Dec. 31, 1938	Dec. 30, 1939
Bills discounted	\$ 4,000,000	\$ 7,000,000
Bills bought	1,000,000	0
United States Government securities	2,564,000,000	2,484,000,000
Other Federal Reserve bank credit	33,000,000	102,000,000
Gold stock	14,512,000,000	17,644,000,000
Treasury currency outstanding	2,798,000,000	2,963,000,000
Money in circulation	6,856,000,000	7,598,000,000
Treasury cash holdings	2,706,000,000	2,409,000,000
Treasury deposits with Federal Reserve banks	923,000,000	634,000,000
Nonmember deposits	441,000,000	658,000,000
Other Federal Reserve accounts	260,000,000	251,000,000
Member-bank reserve balances	8,724,000,000	11,653,000,000
Excess reserves—member banks	3,205,000,000	5,209,000,000

increase in gold stock, (2) a decrease in Treasury deposits with the Federal Reserve banks, reflecting government expenditures, (3) the increase in money in circulation, (4) an increase in Treasury currency outstanding, (5) an increase in member bank and nonmember bank reserve balances.

The chief factors during 1939 in member bank credit and related items as shown, in part, by Tables 42 and 43 were: (1) a large increase in the total investment holdings of member banks which revealed the continuation of the trend toward the substitution of government obligations for other securities; (2) an increase in loans which reflected a considerable increase in the volume of business activity as compared with the previous year which was characterized by a decline in most of the indexes which measure business activity; (3) an increase in excess reserves despite the increase in loans and deposits; (4) an increase in deposits to the highest levels in banking in the United States.

Gold imports and United States Treasury operations had a very important part in the monetary and banking situation during 1939. The huge gold imports made possible simultaneous increases in (1) the total loans and investments of member banks, (2) deposits, (3) excess reserves, and (4) the amount of money in circulation. Most of the imported gold was, in the first instance, added to deposits and reserves of New York City banks and most of the increase in loans and investments occurred at these banks. By reason of Treasury operations, however, these funds were redistributed throughout the country, consequently the reserves and deposits of banks outside New York City also increased. The process by which this redistribution took place was the withdrawal by the Treasury of its New York balances and their expenditures in all regions.

The period December 31, 1941 to December 31, 1945. This period has been selected to show the impact of war financing on the banking system. As in World War I, the Federal Reserve System lent its physical facilities, such as its communications system, and its credit-creating powers to the Government's use for war financing purposes. We are here concerned primarily with the procedures by which the Federal Reserve System aided the Treasury in financing that part of the war costs not financed by the use of the Federal Government's power to levy and collect taxes. In setting forth these

procedures, we shall use the same techniques of presentation as have been employed heretofore in this chapter.

TABLE 43  
LOANS AND INVESTMENTS OF MEMBER BANKS  
[December 31, 1938 to December 30, 1939]

<i>Loans</i>			
Commercial, industrial, and agricultural loans	Increased	\$	667,000,000
Open-market paper	Increased		13,000,000
Loans for purchasing or carrying securities	Decreased		258,000,000
To brokers and dealers	decreased	\$	183,000,000
To others	decreased		75,000,000
Real estate loans	Increased		241,000,000
Loans to banks	Decreased		69,000,000
Other loans	Increased		160,000,000
Total	Increased	\$	754,000,000
<i>Investments</i>			
United States Government obligations direct	Increased	\$	301,000,000
Bills	increased	\$	277,000,000
Notes	decreased		1,166,000,000
Bonds	increased		1,190,000,000
United States government obligations guaranteed	Increased		804,000,000
Obligations of states and political subdivisions	Increased		244,000,000
Other securities	Decreased		233,000,000
Total	Increased	\$	1,115,000,000

Compiled from the following data which are found in the *Federal Reserve Bulletin*, June 1940, p. 560:

<i>Loans and Investments of Member Banks</i>	<i>Dec. 31, 1938</i>	<i>Dec. 30, 1939</i>
Total loans and investments	\$32,070,000,000	\$33,941,000,000
Commercial, industrial, and agricultural loans	5,448,000,000	6,115,000,000
Open-market paper	442,000,000	455,000,000
Loans for purchasing and carrying securities		
To brokers and dealers	973,000,000	790,000,000
To others	775,000,000	700,000,000
Real estate loans	2,716,000,000	2,957,000,000
Loans to banks	125,000,000	56,000,000
Other loans	2,728,000,000	2,888,000,000
United States Government obligations		
Bills	286,000,000	563,000,000
Notes	3,389,000,000	2,223,000,000
Bonds	7,208,000,000	8,398,000,000
Guaranteed	2,340,000,000	3,144,000,000
Obligations of states and political subdivisions	2,448,000,000	2,692,000,000
Other securities	3,192,000,000	2,959,000,000



Table 44 shows "Federal Reserve Bank Credit and Related Items" for December 31, 1941 and December 31, 1945 and changes in these items, classified according as they made funds available to the money market or withdrew funds from the money market. The most significant items that appear in this table are: (1) the increase in United States Government securities held by the Reserve banks,

TABLE 44

FEDERAL RESERVE BANK CREDIT AND RELATED ITEMS \*  
[December 31, 1941 to December 31, 1945]

Funds were made available to the money market through	
1. An increase in bills discounted	\$ 246,000,000
2. An increase in U.S. Government securities held by the Reserve banks	22,008,000,000
3. An increase in other securities held by the Reserve banks	476,000,000
4. An increase in Treasury currency outstanding	1,092,000,000
5. A decrease in nonmember bank deposits	52,000,000
Total	<u>\$23,874,000,000</u>
Funds were withdrawn from the money market through	
1. A decrease in gold stock	\$ 2,672,000,000
2. An increase in money in circulation	17,355,000,000
3. An increase in Treasury cash holdings	72,000,000
4. An increase in Treasury deposits with Federal Reserve banks	110,000,000
5. An increase in other Federal Reserve accounts	204,000,000
Total	<u>\$20,413,000,000</u>
Member bank reserve balances increased	<u>\$ 3,465,000,000</u>

\* Constructed from the following data found in *Banking and Monetary Statistics* and the *Federal Reserve Bulletin*:

Reserve Bank Credit and Related Items (In millions of dollars)

	December 31, 1941	December 31, 1945
Bills discounted	3	249
United States Government securities	2,254	24,262
Other Reserve bank credit	104	580
Gold stock	22,737	20,065
Treasury currency outstanding	3,247	4,339
Money in circulation	11,160	28,515
Treasury cash holdings	2,215	2,287
Treasury deposits with Federal Reserve banks	867	977
Nonmember deposits	1,360	1,308
Other Federal Reserve accounts	291	495
Member bank reserve balances	12,450	15,915

(2) the increase in Treasury currency outstanding, (3) the decrease in gold stock, (4) the increase in money in circulation, and (5) the increase in member bank reserve balances. The increase in the first two of these five items, plus minor items, offsets the total of the others, plus minor items.

During the war years the volume of money in circulation increased from \$11,160 million to \$28,515 million. Gold stock decreased from \$22,737 million to \$20,065 million. Member bank reserve balances, because of a tremendous increase in bank deposits, were increased from \$12,450 to \$15,915 million. From what source did the banks obtain funds to meet these great drains and requirements? The answer is to be found in the fact that the Federal Reserve banks supplied over \$22 billion of the total needed through their purchases of government securities. Since the drains of cash from the banks, the drains of gold from the country or into earmarked holdings and the increase in required reserves were all furnished mostly by the Federal Reserve banks, the commercial banks could continue to buy ever-larger amounts of government securities in the face of these great drains.

Table 45 shows that the increase in bank loans during the war period is attributable entirely to loans to brokers and others for purchasing and carrying securities.<sup>13</sup> (Not until after June 30, 1945 did commercial loans increase. From June 30 to December 31, 1945, commercial loans of insured banks increased from \$7,501 to \$9,461 million.) We may therefore conclude that the net gain in the earning assets of commercial banks during the war years was due to bank purchases, including Federal Reserve bank purchases of government securities. Changes in their holdings of securities other than government securities were negligible in amount.

It is clear that increases in the loans and investments of banks are reflected in increases in their deposit liabilities. During the war years, the deposit liabilities of banks, as shown in Table 45, increased in about the same proportions as did their total loans and investments. (Of course, as deposits increased required reserves also in-

<sup>13</sup> Figures for *all insured commercial banks* are used here because the breakdown of loans and investments for insured banks is more complete than for all banks. A comparison of figures for *insured banks* shows total loans and investments of insured banks on December 31, 1945, to be \$121,809 million, and for all banks to be \$140,227 million.

creased, which explains most of the discrepancy between the increase in deposits and the increase in total loans and investments.)

Thus we had in the last period of war a manifest demonstration of the power to create deposits through bank credit expansion. This power is especially great when the Federal Reserve banks participate in the process through the extension of Federal Reserve bank credit, and the Treasury participates in it through its power to issue

TABLE 45

ALL INSURED BANKS IN THE UNITED STATES,  
LOANS, INVESTMENTS, AND DEPOSITS  
December 31, 1941 and December 31, 1945 \*  
(In millions of dollars)

	December 31, 1941	December 31, 1945
Total loans	21,258	25,765
Commercial, including open market paper	9,214	9,461
Agricultural <sup>1</sup>	1,450	1,314
Loans for purchasing or carrying securities		
To brokers	614	3,614
To others	662	3,606
Real estate loans	4,773	4,677
Consumer and other loans	4,545	3,542
Total investments	21,046	88,912
U.S. Government obligations—bills	988	2,455
Certificates of indebtedness		19,071
Notes	3,159	16,045
Bonds	12,797	51,321
Guaranteed	4,102	22
Obligations of states, etc.	3,651	3,873
Other securities	3,333	3,258
Demand deposits adjusted <sup>2</sup>	37,845	74,722
Interbank, domestic and foreign	10,496	13,814
U.S. Government	1,762	23,740
State and political subdivisions	3,677	5,098
Certified and officers' checks, etc.	1,077	2,585
Individuals, partnerships, and corporations	36,544	72,593
Total time deposits	15,855	29,946
Individuals, partnerships, corporations	15,146	29,277
Other time deposits	709	669

\* Computed from data presented in *Federal Reserve Bulletin*, October 1946.

<sup>1</sup> During the period Dec. 31, 1942–June 30, 1945, agricultural loans included loans to dealers, processors, and farmers' cooperatives covered by purchase agreements of the Commodity Credit Corporation, which are now classified as industrial loans.

<sup>2</sup> Demand deposits other than interbank and U.S. Government less cash items reported as in process of collection.

Treasury currency. A statement worthy of repetition, as a concluding statement for this chapter, is that during the war years the Federal Reserve banks by increasing their holding of government securities in the amount of \$22,008 billion and the Treasury by increasing Treasury currency outstanding in the amount of \$1,092 billion offset the drains on banks caused by the wartime decrease in gold stock, the increase in money in circulation, and the increase in required reserves.

### STUDY QUESTIONS

1. To the extent that the Federal Reserve Board was required to exercise control or might choose to exercise control over bank credit, for what purpose was it assumed in the formative years of the Federal Reserve System that such control should be exercised?
2. Explain what is meant by a *doctrine of accommodation* concerning the operations of the Federal Reserve banks and compare it with a *doctrine of control* over bank credit.
3. "The Federal Reserve System was born at the end of an era. As a result the Reserve authorities have had to slough off many rationalizations and rules of thumb of central banking widely accepted during that era but not appropriate, at least, to the Reserve System." (Karl Bopp, in *Federal Reserve Policy*, p. 23, published by the Board of Governors of the Federal Reserve System.) Comment.
4. "The Federal Reserve System was originally designed to provide more adequate machinery for the functioning of the commercial loan theory of bank credit." Do you agree? Explain.
5. "Shiftability of bank assets to the open market in a crisis cannot succeed as a method whereby the banking system gains needed new supplies of money." Do you agree? Explain.
6. "Recent banking legislation has violated the original principle of the Federal Reserve System." Comment.
7. Explain how the Federal Reserve System in aiding the financing of World War II expenditures placed the System in a dilemma in the period of postwar inflation.
8. Explain how an increase in each of the following factors affects member bank reserve balances:
  - (a) Discounts and advances of the Federal Reserve banks.
  - (b) U. S. Government security holdings of the Federal Reserve banks.
  - (c) Other security holdings of the Federal Reserve banks.
  - (d) Gold stock.
  - (e) Treasury currency outstanding.

- (f) Money in circulation.
  - (g) Treasury cash holdings.
  - (h) Treasury deposits with the Federal Reserve banks.
  - (i) Nonmember deposits with the Federal Reserve banks.
  - (j) Other Federal Reserve accounts.
9. "Had the Federal Reserve Board possessed powers of selective credit control in 1929 their use in that year would have been particularly appropriate." Defend or refute this statement.
  10. "Federal Reserve policy in 1930 was predicated on the theory that a reduction in member bank indebtedness to the Reserve banks would induce banks to lend more readily and thereby cause an increase in the money supply. This was a false theory because the reduction of member bank indebtedness to the Reserve banks was accomplished by a reduction of member bank credit, thereby decreasing the money supply in a period of general contraction." Comment.
  11. Consult the table showing Federal Reserve bank credit and related items, December 31, 1938 to December 30, 1939 and determine the effects in that period of a great increase in gold stock.
  12. How do you account for the ability of banks in the war period, 1941-1945, to buy great quantities of government securities, to acquire additional reserve balances required against greater deposit liabilities, and to meet the increased demands for circulating currency, despite the fact that the gold stock declined by a considerable amount?
  13. What was the chief cause of the increase in bank deposits during the war years, 1941-1945?

# C H A P T E R

## 2 2

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### THE TREASURY AND THE MONEY MARKET

**Introduction.** The traditional approach to central bank policy assumes that in periods of economic disequilibrium the self-corrective forces of the market place need only to be goaded into a quicker pace toward a more stable state. Under this view there is little need for a strong monetary authority that would control the quantity of the nation's money supply. It does not, however, deny to the central bank the privilege to operate in the money market. On the contrary, it presumes that the money market operations of the central bank will render aid to the self-corrective forces of the market place. For example, a nudging of the interest rate, by means of open market operations in an upward direction when boom conditions threaten the economy is presumed to be helpful in retarding the forces of expansion short of a violent crash. When the economy is threatened by a deepening of depression, a downward pressure on the interest rate through the operations of the central bank in the money market is presumed to be effective in hastening recovery. Changes in the interest rate thus add strength to other factors, such as changing wage rates and changing prices of goods and services, that correct conditions of boom and depression.

The Federal Reserve Act, in its original form, seems to be consistent with this theory of central bank functions, since it did not explicitly give the governing board of the Federal Reserve System authority to develop and implement a national monetary policy. In

the absence of this definitive authority, which amendments to the Federal Reserve Act as well as the original Act have not granted, the Board of Governors has struggled with the problem of formulating a theoretical basis for its operations. These efforts have not resulted in a settlement on any one guiding principle of Federal Reserve policy that might consistently be followed.

Opinions differ concerning the degree of misfortune that has befallen our society by reason of the failure of the Federal Reserve System to develop a consistent monetary policy. One body of opinion regards this evil with equanimity, because the alternatives, had we flown to them, might have involved us in the delegation of powers beyond the wisdom and skills of the persons entrusted with them. Among those persons who are not beset with such fears of alternatives to our present position, disagreement exists, not so much in the end to be sought, which is greater stability in our economy, but rather in the means by which the objective is to be attained. Much of this disagreement flows from differences of opinion over the nature of, or the strategic factors in, the business cycle. The view that the business cycle is self-corrective indicates little need for vigorous action involving changes in the quantity of the money made available to the economy. A second view is that a maladjusted supply of money, by which is meant monetary deficiencies and excesses relative to the monetary needs of the economy, is the causal factor in the ups and downs of the business cycle. The third opinion admits the necessity for correcting a maladjustment between the total quantity of money and the total monetary needs of the economy, but contends that this maladjustment when corrected might leave another uncorrected, namely, a maladjustment in savings and investment relationships, which might be a strategic factor in the business cycle.

A sufficient description, except for an additional comment, of the first of these views is set forth in the first paragraph of this chapter. The additional observation is that most bankers and businessmen look with grave distrust on the implications of both monetary policy and fiscal policy hereafter described. They generally have regarded the Federal Reserve banks to be bankers' banks that exist for the purposes of accommodation rather than for purposes of control. They also regard a federal budget balanced at a low level of receipts

and expenditures, under all conditions except extreme emergencies, to be the best possible policy.

The proponents of the second of these three views would place monetary policy operated by the central bank in the forefront of all measures designed to attain greater stability in the economy. Monetary policy is concerned with the quantity of the circulating media which should be adequate but not excessive to meet (1) the needs of business firms to buy labor and material, (2) the needs of consumers to buy the products of industry and agriculture, and (3) the needs of business firms and consumers for money to hold for future contingencies. Once these needs are exactly met or nearly so it is contended that full employment results since private spending is then maintained at a rate sufficient to absorb the output of the economy. Public spending as a means of achieving full employment and economic stabilization is therefore unnecessary.

According to the third proposition stated above, monetary policy is not completely to be cast aside but greater reliance is to be placed on fiscal policy. The defenses of this position (set forth in this paragraph) seem to begin with the proposition that individual and business firms do not always spend all the income they receive for consumption goods and capital goods. If they did, the only problem would be that of getting production sufficiently high to provide full employment. The problem, however, is made much more complex than that because of the probability of savings exceeding private investment, except under very favorable circumstances. Great territorial expansion and rapid population growth have been important factors throughout most of the history of the United States making for a high rate of investment, until recent decades when this expansion has declined significantly. Whether sufficient capital-using development will be provided by technological changes involves the much debated stagnation thesis. Without entering into the merits of this debate, it is clear that the proponents of a vigorous fiscal policy contend that the government can control the marginally significant purchasing power whenever aggregate demand and aggregate supply available under full employment are unequal. By withdrawing purchasing power in periods of boom, through taxation and the growth of Treasury surpluses in sterile accounts, the government can control inflationary forces. Whenever the public prefers cash



balances to goods and services, that is, when the money relinquished by the general public does not flow back to it in normal market channels to furnish as great a volume of spendable income as before, the state can create new money by deficit financing to compensate for the excess of savings over investment, thereby enabling the public to spend as much as in the previous period. If the deficit financing should merely magnify liquidity preferences in the downswing of the business cycle, action might also need to be taken to activate existing money balances.

Definitions of monetary policy, fiscal policy, and debt management. A close relationship exists between monetary policy, fiscal policy, and debt management as instruments of economic policy. Actions taken in pursuit of the objectives of any one of these policies inevitably have repercussions that must be taken into account by the operators of the other policies. The activities described by the three terms are not only interrelated; they are overlapping as well. Exact definitions that will suit all problems are difficult. As they are used here, the term *monetary policy* refers to measures taken by the central bank that are designed to effect variations in the volume and availability of the reserve balances of commercial banks, which in turn affect the volume of bank deposits and the level of interest rates. The term *fiscal policy* refers to the use by the government of its powers to spend and to tax, with a view to affecting by influxes and effluxes the volume and direction of flow in the income stream. The term *debt management* refers to the handling of the federal debt in such manner as to maintain the government credit and to prevent the debt from becoming a factor of instability in the economy.

## RELATIONSHIP BETWEEN THE NATIONAL TREASURY AND THE CENTRAL BANK

If fiscal policies and debt management are to be given important roles in attempts to achieve greater economic stability, it might well be asked, what role shall the central bank play? In the United States, the Treasury and Congress exercise fiscal powers and have powers of management over the federal debt, while the Board of Governors of the Federal Reserve System, acting under authority of Congress, exercises monetary controls. Can the two effectively be coordinated?

Howard S. Ellis, writing on this question, has made the following observations:

. . . paralleling the inability of the banking system to control a general movement toward liquidity, the Treasury does not possess very effective instruments against inflation. Taxation moves slowly, since it awaits Congressional action. Furthermore, the explicit use of taxation to curb inflationary developments in peacetimes would require a degree of illumination of the public and of legislators considerably beyond its present state. Prospectively it will not be possible to dispense with central bank controls, which are administrative and hence available immediately and which can be made to effect all new loans immediately.

In "normal" peacetimes there might seem to be a presumption in favor of a division of labor, the Congress and the Treasury determining the structure of taxation and the Federal Reserve the quantity of credit. Actually, however, this presumption is over-ridden by the consideration that peacetimes are never normal by an inherent stability of private enterprise, but only as the result of authoritarian controls. It so happens that the Treasury is equipped with legal powers and institutional devices which are powerful and varied on the side of monetary expansion but slow and clumsy on the side of restraining inflation, whereas the reverse prevails for the Central Bank. It is not easy to imagine a rearrangement of powers and prerogatives which would change this much without converting the Treasury to a central bank and the Central Bank to a Treasury. Recent years do not afford many distressing instances of these two institutions working at cross purposes, and the chief financial problems are questions of general policy, not a clash of these monetary institutions.<sup>1</sup>

It follows from what has been said that a difficult problem exists in the United States in coordinating the policies of the Treasury and the Board of Governors. Fortunately, no serious conflict between them has developed in periods of national emergencies. In wartime, the governing board of the Federal Reserve System has set aside the exercise of monetary responsibilities in order to render aid in financing government operations. The Treasury has not apparently found it necessary to assert its rights in this matter. It is interesting to note on this question that Section 10 of the Federal Reserve Act contains the following paragraph:

Nothing in this chapter contained shall be construed as taking away any powers heretofore vested in the Secretary of the Treasury which

<sup>1</sup> By permission from "Central and Commercial Banking in Postwar Finance," by Howard S. Ellis, in *Economic Reconstruction*, edited by Seymour E. Harris, Copyrighted 1946. McGraw-Hill Book Co., Inc., pp. 238-239.

relate to the supervision, management, and control of the Treasury Department and bureaus under such department, and wherever any power vested by this chapter in the Board of Governors of the Federal Reserve System or the Federal Reserve agent appear to conflict with the powers of the Secretary of the Treasury, such powers shall be exercised subject to the supervision and control of the Secretary.

(12 U.S.C.A., title 12, sec. 246.)

There seem to be three possible positions to take concerning the relationship between the government and the central banking system. The first is that the central bank should be independent of the government. The second is that the national Treasury should exercise not only fiscal powers but monetary powers as well; that it should be the monetary authority of the country. The third is a compromise position involving cooperation between the national Treasury and the central bank.

The first position was vigorously defended in 1913 when the Glass-Owens bill (which when passed became the Federal Reserve Act) was being debated. Many bankers insisted that the members of the Federal Reserve Board proposed in the bill should be elected by the member banks. President Wilson insisted on, and won his point, that the members of the Board should be appointed by the President. It was further provided that the Secretary of the Treasury and the Comptroller of the Currency were to be *ex officio* members of the Board. In the Banking Act of 1935, which reorganized the governing board of the Federal Reserve System, provision was not made for membership on the Board of Governors of the Secretary of the Treasury and the Comptroller of the Currency. Evidently, it was thought that the Board should be independent of the Treasury. Hardy defended this position in 1932 when he wrote:

It is a generally accepted principle of modern central banking theory that central banks should be free from the control of the treasuries of the countries which they serve. It is the function of a central banking system to maintain a sound credit situation, and that objective is bound to conflict to a certain extent with the interest of the treasury in borrowing as cheaply, and at times as extensively, as it can. In this respect the situation of a treasury differs from other borrowers only in respect to power.

Compliance with the desire of national treasuries for cheap money having been the source of most of the disastrous inflations, the charters of the banks which have been founded during the stabilization era have as a

rule contained elaborate provisions designed to maintain the independence of the banks from the government, and especially from treasury control. I believe this is a sound principle, but one which is certain in practice to be forgotten when war or other public emergencies make it necessary for treasuries to mobilize resources quickly.<sup>2</sup>

The second position has been defended in the United States, on the grounds that by reason of the huge federal debt, the Treasury must dominate the money market. The holding of government securities by banks, insurance companies, other financial institutions, and by individuals is so large that the interests of the whole economy demand stability in the market for them. Interest on the federal debt is a political question for the determination of the Congress and the Treasury, as are tax questions and government expenditures. Since these questions are overwhelming in their importance, it is held that central bank policies must be adjusted to national policies, politically determined, and not the reverse of this. Accordingly, the central bank should be the arm of the national Treasury in the implementation and execution of general policy.

This position is taken by Mints, who, without defending the wisdom of government management of the stock of money in every instance, nevertheless asserts:

Those opposed to governmental "interference" in monetary management fail to realize that ultimate monetary authority lies with the legislature and the Treasury in its fiscal operations is unavoidably exercising an influence on monetary affairs. It is not at all certain that Treasury control of the stock of money would always be reasonable within the limits of any discretionary authority (which would be small) that might be granted to it; but Treasury influence cannot be excluded by the creation of a speciously independent monetary agency that cannot have adequate powers for the performance of its task. Such division of control invites indecision, conflict, irresponsibility, and a consequent failure to pursue successfully any given policy.<sup>3</sup>

The third position, which we have called a compromise position, involves retention of a central bank which, as is pointed out in the quotation that follows, is charged with the administration of broad

<sup>2</sup> Hardy, C. O., *Credit Policies of the Federal Reserve System*, Washington, D.C.: The Brookings Institution, 1932, p. 278.

<sup>3</sup> Mints, Lloyd W., *A History of Banking Theory*, Copyrighted, 1948, by The University of Chicago Press. By special permission of the publishers, pp. 286-287.

monetary and credit policies. If the cooperation that this position requires is to be a reality, it seems logical that Treasury officials should sit as *ex officio* members, if not as voting members, on the governing board of the central bank, and the Treasury ought to consider the opinions and suggestions of this board as authoritative judgments on matters on which the Treasury has discretionary powers. In general, this position on the question requires the formulation of a general policy that changes with changing situations, which policy coordinates monetary and fiscal policies. After reviewing the history of the relationship between governments and central banks, Karl R. Bopp of the Federal Reserve Bank of Philadelphia concluded a paper on this question in the following words:

This analysis raises again the question of the relationship between the government and the central banking system. There is no easy, clear-cut answer. Government is or should be responsible to the electorate for dealing with social and economic problems. The central bank is charged with the administration of broad monetary and credit policies. It is obliged to present its monetary point of view with courage. Its powers must be exercised in the public interest. Its strength must derive from demonstrated competence. The bank may be forced to yield if the administration in power loses confidence in it for whatever reason; but the electorate, not the government of the day, must have the final say in a democracy, even though the immediate decision may be wrong.

Bitter experiences show that neither an independent nor a subservient central bank produces satisfactory results in the long run. A proper legal structure of all agencies concerned with broad monetary and credit policies, including methods of selection, qualification, terms of office, and similar factors affecting central banks, is helpful in securing and maintaining an appropriate middle ground, but law alone does not insure wise policy. I believe that a shift in emphasis from insistence upon rights, sovereignty, and independence to comprehension of duties and responsibilities for social welfare would aid in establishing relationships between the two institutions appropriate to existing conditions.<sup>4</sup>

## THE SIZE AND COMPOSITION OF THE FEDERAL DEBT

The debt of the Government of the United States, by reason of wars and depression, has increased in recent years to such a large size that the problems created by it have become a matter of con-

<sup>4</sup> Bopp, Karl R., "Central Banking at the Crossroads," *American Economic Review*, Supplement, March 1944, pp. 276-277.

cern to the whole citizenry. The manner in which debt problems are handled may have important repercussions upon levels of production, employment, credit, bank deposits, income flows, and other factors that affect the welfare of the whole economy. The larger the debt becomes, the greater its impact upon the economy, and the more important the objectives and methods pursued in handling the problems of debt management.

We shall here attempt, not to set forth the actions that the Congress should take with respect to debt management nor to defend or refute one set of federal income and expenditure figures as against another, but rather, to set forth the interrelationship of some of the factors involved in debt management.

**Growth of the federal debt.** It is interesting to observe, before entering into a discussion of the rise in the federal debt in the recent war period, that the total net public and private debt in the United States fell from \$187.7 billion in 1929 to \$161.9 billion at the end of 1934, and stood at \$179.9 billion at the end of 1940. During this period (1929-1940), the debt of the federal government rose from \$15.1 billion to \$36.9 billion, while private debt fell from \$159.4 billion to \$126.6 billion.<sup>5</sup> In other words, the total national debt, public and private, fell in the face of a rise—almost a two-and-one-half-fold rise—in the federal debt.

In general, the proportion of federal debt to total public and private debt has risen in times of war and depression and has fallen in times of peace and prosperity, as is shown in Table 46. In 1916, when total public and private debt was \$81.4 billion, the federal debt was 1.5 per cent of this total debt. At the end of 1919, the percentage of the one to the other rose to 20 per cent, which point was not reached again until 1939-1940 when it exceeded slightly the 20 per cent figure. Beginning in 1941, defense expenditures and, later, war expenditures, increased federal indebtedness at a rate that was greater than the rate of increase in private indebtedness, resulting in a federal debt equal to 61.7 per cent of total public and private debt at the end of 1945.

The title "net public and private debt," as used here differs from "gross debt" in that the former is a comprehensive aggregate of the indebtedness of borrowers after elimination of certain duplicating

<sup>5</sup> See *Survey of Current Business*, September 1946, p. 13

TABLE 46

NET FEDERAL DEBT IN RELATION TO  
TOTAL PUBLIC AND PRIVATE DEBT, IN UNITED STATES,  
END OF CALENDAR YEAR, 1916-1945 \*

Year	Total Public and Private Debt		Federal Government and Federal Agency Debt	
	Amount (in billions of dollars)	Per cent	Amount (in billions of dollars)	Per cent of Total Public and Private Debt
1916	81.4	100	1.2	1.5
1919	127.2	100	25.5	20.0
1929	187.7	100	15.1	8.0
1933	162.7	100	20.5	12.6
1940	179.9	100	36.9	20.5
1941	202.4	100	47.8	23.6
1942	250.2	100	93.6	37.4
1943	305.9	100	147.0	48.0
1944	365.1	100	205.0	56.1
1945	400.5	100	247.0	61.7

\* Source: Bonnell, Elwyn T., "Public and Private Debt in the United States," *Survey of Current Business*, September 1946, p. 13.

governmental and corporate debt. "Within the Federal Government and its corporations and agencies, duplicating debt consists principally of Federal holdings of Federal obligations. . . . Within the non-Federal Government area, state and local government securities held in sinking, trust, or investment funds either by the issuer or other entities within the sector are considered duplicating debt and are eliminated. In the private corporate area, duplicating debt is defined as debt held either by the issuer or owed to other members of an affiliated system." <sup>6</sup>

The gross debt of the federal government, including the debt of all federal agencies to each other and debt to the public, reached \$281 billion at the end of 1945. At the same time, the direct debt stood at \$279 billion, and the net debt of the federal government and federal agencies at \$247 billion.

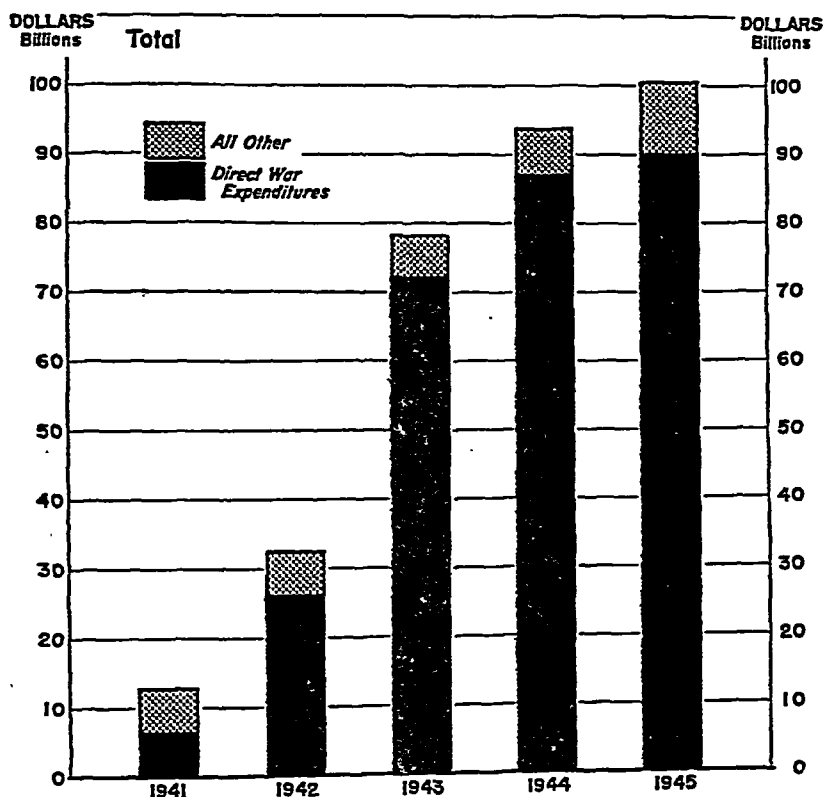
Changes in total public and private debt at the end of selected calendar years are graphically presented in Chart 16.

Treasury expenditures and receipts, 1939-1945. The increase in the federal debt in the war years was, of course, the result of an excess of Treasury expenditures over Treasury receipts. In the fiscal year

<sup>6</sup> Bonnell, Elwyn T., *loc. cit.*, pp. 10-11.

1945, Treasury expenditures from general and special accounts amounted to \$100.4 billion. Of this amount, \$90 billion was expended for war and an additional \$7.4 billion was expended for purposes mainly related to war, while \$3 billion was classified as other expenditures. These figures and those for earlier years are graphically presented in Chart 16.

Chart 16 UNITED STATES TREASURY EXPENDITURES CLASSIFIED BY MAJOR PURPOSES, FISCAL YEARS, 1941-1945.

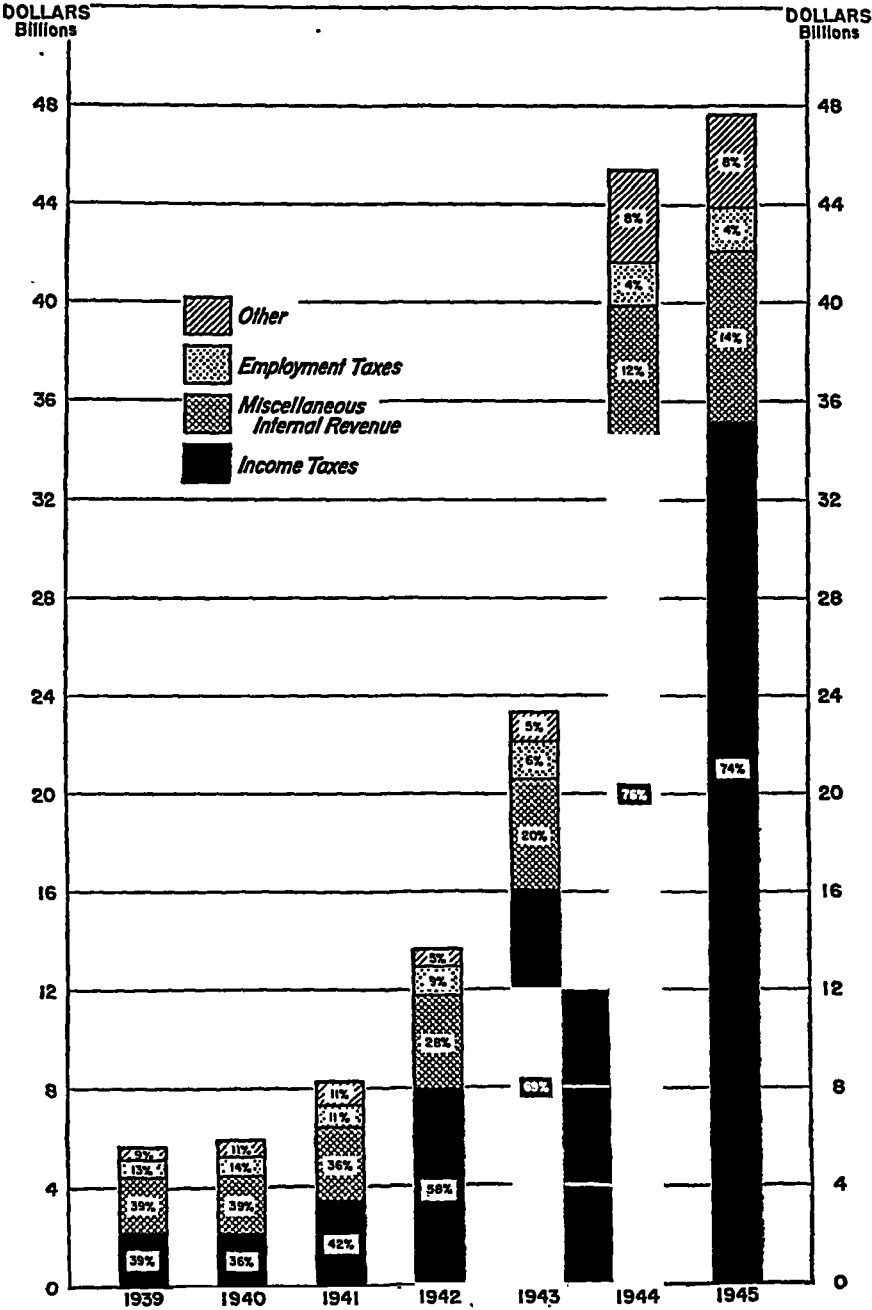


Source: *Annual Report, Secretary of the Treasury, 1945, p. 26.*

Treasury receipts for the fiscal year 1945 amounted to \$47.7 billion, 73.7 per cent of which were derived from income and excess profit taxes and the remainder from other sources. Receipts of the United States Treasury, classified by major sources, are graphically presented in Chart 17.



Chart 17 RECEIPTS OF UNITED STATES TREASURY BY MAJOR SOURCES,  
FISCAL YEARS, 1939-1945.



Source: *Annual Report, Secretary of the Treasury, 1945, p. 14.*

Interest charge on the federal debt. On December 31, 1945, the interest-bearing federal debt bore interest at an average rate of 1.96 per cent, resulting in a computed total annual charge of \$5.4 billion. Both the average rate and the computed interest charges are, however, reduced by the extent to which the Series E savings bonds and other securities that bear the full rate only if held until maturity are redeemed before maturity. The total interest charge was reduced in 1946 by redemptions of discount bonds and also by the retirement of a part of the federal debt. During the fiscal year ending June 1946, the amount paid by the Treasury to the account "interest on debt" was \$4,722 billion. In the calendar year 1946 the amount paid was \$5,014 billion.

The average rate of interest paid by the United States Government on its obligations has declined since our entry into World War I. On June 30, 1914, the average rate of interest on the interest-bearing debt of the United States Government was 2.36 per cent. At that time, the debt was approximately \$1 billion and was held largely by national banks to secure outstanding national bank notes. By June 30, 1920, the average rate had risen to 4.22 per cent. Shortly before the outbreak of World War II, on June 30, 1939, the average rate on a total indebtedness of \$45 billion was 2.53 per cent. On an indebtedness of \$257 billion on June 30, 1945, the average rate had fallen to 1.94 per cent, from which figure the average rate rose to 1.96 by the end of the year.

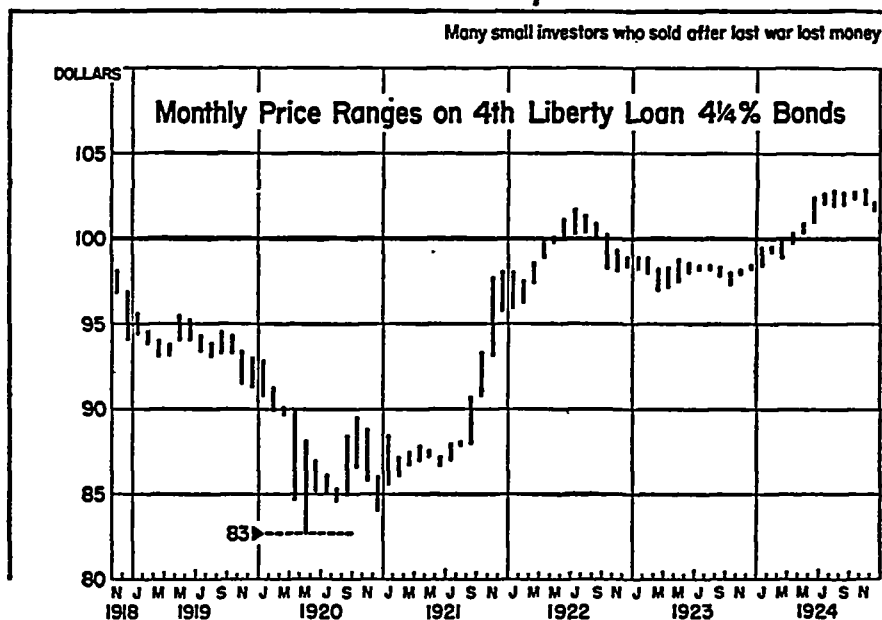
In considering the interest cost of the federal debt, it should be borne in mind that a part of the interest payments made is recouped by the Treasury through taxes on interest income derived from government securities, and that another part of the total interest payments is made to government trust funds. These considerations reduce the net payments by a considerable amount, which may be estimated at 25 per cent. Another consideration is that interest payments on the federal debt, unlike military expenditures, do not destroy productive resources. These considerations lend weight to the contention that the interest cost of the federal debt, although impressive in dollar amounts, should not be the decisive factor in the determination of fiscal policy.

Composition of the federal debt. The Treasury in its reports on its operations has frequently described its policies concerning the flota-

tion of securities as "tailoring securities to investors' needs." The purpose of this policy, it was explained, was not only to assure the largest possible volume of sales, but also to contribute to the flexibility of the economy in the postwar period. It also called attention to the distinct contrast between the policies followed in World War II and World War I. A single type of security was offered in each Liberty Loan drive of World War I to all classes of investors.

Chart 18

### *World War I Securities Not Risk-proof*



Source: *Annual Report, Secretary of the Treasury, 1945, p. 410.*

Whether or not the Treasury's policies in financing the recent war contributed to the flexibility of the postwar economy, which is debatable, at least two facts are clear: (1) the Treasury was eminently successful in floating its securities at low rates of interest to all classes of investors, and (2) at no time to the present have the marketable issues been quoted at prices below par.

During World War I, the securities sold to the general public were marketable issues and were subject to market fluctuations. After the war, the market prices of those issues fell, as is shown in Chart 18, which depicts the monthly price ranges of the Fourth Liberty bonds, the largest issue floated during the war.

During World War II, great efforts were expended to sell discount bonds to small investors, which bonds have guaranteed redemption values and, hence, are not subject to market value fluctuations. The market values of the marketable issues were supported by Federal Reserve policies designed to prevent their being dumped on the open market at prices below par. Treasury and Federal Reserve policies, therefore, have thus far been successful in preventing any loss by investors on government securities, except such losses as have been incurred by purchases at prices above par, as for example a purchase of a long-term security at 105 and a subsequent sale at 103.

### METHODS OF WAR FINANCE

Wartime expansion of bank credit, deposits, and currency. From June 30, 1940 to the end of 1945, total funds raised by the United States Treasury amounted to \$383 billion. Of this amount, \$153 billion came from taxes. The difference between these two figures—\$230 billion—was obtained by borrowing, \$104 billion of which was borrowed from the banking system, including the Federal Reserve banks as well as commercial banks and mutual savings banks. Thus approximately \$126 billion was borrowed from nonbank investors.

Holdings of United States Government securities by commercial banks increased from about \$16 billion in 1940 to approximately \$91 billion in 1945. In the same period, commercial bank loans also expanded, mostly to finance purchases of government securities. This expansion of bank credit, which caused a great increase in bank deposits, was accompanied by an increase of money in circulation of \$21 billion. The total amount of demand deposits adjusted, time deposits, and currency outside banks increased from \$67 billion in June 1940 to \$175 billion at the end of 1945, an expansion of \$98 billion. In addition, the general public, excluding banks, government trust funds, insurance companies, and other financial institutions, held at the close of 1945 about \$100 billion of government securities. Since more than half of the government securities held by the general public are savings bonds and notes which are redeemable on demand, these securities are highly liquid assets. Marketable government issues, as long as the Federal Reserve banks stand ready to buy them, are also readily convertible into cash.

Although explanations of the procedures by which this unprecedented expansion in the money supply and liquid assets have been made in previous chapters, particularly those chapters devoted to bank loans and investments, further explanations of the methods of war finance are needed to reveal the impact of Treasury operations and policies on the banking system. Accordingly, typical transactions in government securities within the banking system will be explained in paragraphs which follow.

**Transactions in government securities.** Table 24, page 285, shows the ownership of government securities, classified according to types of holders. It will be observed that the major blocs of government security holdings are held by (1) commercial banks, (2) the Federal Reserve banks, (3) individuals, (4) insurance companies, and (5) other corporations and associations. Different repercussions in the economy follow acquisition of government securities by one group as compared with another, and different results flow from sales of government securities depending on whether the buyers are in one bloc of holders or another. The impact on the economy of typical transactions in government securities, therefore, merits careful consideration.

*Sales of government securities by the Treasury to commercial banks.* We have previously explained the processes by which the purchases of government securities by commercial banks result in an increase in bank deposits. Additional observations concerning this phenomenon seem, however, to be necessary here. When a commercial bank buys a government obligation from the Treasury the following bookkeeping entry is made: (We shall call the purchaser "The Member Bank.")

#### THE MEMBER BANK

##### ASSETS

Government securities +

##### LIABILITIES

War loan deposits +

On the books of the Treasury, the asset "War loan deposits" increases and the liability "Government securities outstanding" increases.

Let us next assume that the Treasury transfers funds from war loan deposits to the Federal Reserve bank. The resulting entry on the books of the Treasury is a decline in the asset "War loan deposits"

and an increase in the asset "Treasury deposits with the Federal Reserve banks." On the books of the Federal Reserve bank, the liability "Reserve balances of member banks" declines and the liability "Treasury deposits" increases. The entries on the books of The Member Bank are as follows:

THE MEMBER BANK

ASSETS	LIABILITIES
Reserve balances —	War loan deposits —

The third step is Treasury expenditures made by drawing checks on its deposits with the Federal Reserve bank in favor of an individual or firm, the checks being deposited in The Member Bank. The Treasury's deposit with the Federal Reserve bank then declines, and on the books of the Federal Reserve bank "Reserve balances of member banks" increases. The entries on the books of The Member Bank are as follows:

THE MEMBER BANK

ASSETS	LIABILITIES
Reserve balances +	Demand deposits +

The net effect of the three steps combined is an increase in the public debt, an increase in member bank holdings of government securities, and an increase in the liquid asset holdings of the general public in the form of bank deposits.

*Sales of government securities to nonbank investors.* When non-bank investors buy government securities from the Treasury and pay for them, not by drawing on previously accumulated hoards of money, but rather by drawing a check against deposit accounts, the net effects, after the Treasury has expended the proceeds of the sale of securities, are an increase in the public debt and an increase in the public's holdings of liquid assets in the form of government securities.

*Purchases of government securities by Federal Reserve banks from member banks.* When the commercial banks face a greater demand for currency from their customers because the general public wishes to hold a greater amount of currency, the member banks can draw on their excess reserves, if they have reserve balances in excess of

reserve requirements. If they have little or no excess reserves, they must liquidate assets to augment their supply of vault cash. Let us assume that The Member Bank has increased its holdings of government securities and that it has incurred greater deposit liabilities as a consequence of such purchases. One of the depositors, let us say, meets a payroll by drawing checks against his deposit in The Member Bank. The cashing of these checks by employees produces the following results:

#### THE MEMBER BANK

ASSETS	LIABILITIES
Cash in vault —	Deposits —

As a result of this transaction, the vault cash of The Member Bank is, let us say, below the level that seems to be necessary to meet customers' demands. It, therefore, desires to bring vault cash up to the previous level, and accomplishes this by selling government securities to the Federal Reserve banks. On the books of the reserve bank the asset "Government securities" increases and Federal Reserve note liability increases. This transaction produces the following results on the books of The Member Bank:

#### THE MEMBER BANK

ASSETS	LIABILITIES
Cash in vault +	
Government securities —	

The net result of these transactions, beginning with the purchase of government securities by the banks, is to increase the public debt, to increase Reserve bank holdings of government securities and also their note liabilities, to leave member bank holdings of government securities and cash in vault at the same level, and to increase the liquid asset holdings of the public in the form of currency in circulation.

Another situation is one that involves the purchase of government securities from the member banks by the Reserve banks for the purpose of furnishing the member banks with additional reserves. In this case, beginning with the sale of securities by the Treasury to the banks, the public debt rises, security holdings of member banks at first rise and then fall as securities are sold to the Reserve banks,

reserves of member banks rise, and security holdings of the Reserve banks rise. The net effect is an increase in the public debt and an increase in member bank reserve balances.

*Indirect acquisition of government securities through their purchases by banks from nonbank investors.* The first step—the sale of government securities to nonbank investors—as we have observed, resulted in no increase in the volume of deposits or currency in circulation. When, however, these nonbank investors sell securities to banks, they exchange one form of a liquid asset for another. This exchange results in an increase in bank holdings of government securities and an increase in bank deposits. This process is known as the “monetization of the debt.”

The purpose behind bank purchases of government securities from nonbank investors is to gain higher-yielding earning assets. Bankers realize that continuously to “roll over”  $\frac{7}{8}$  per cent certificates of indebtedness with one-year maturities gives them a  $\frac{7}{8}$  per cent earning asset, while a  $2\frac{1}{2}$  per cent bond, if it can be purchased at par, gives them that yield even within the last year before the maturity date. These considerations might motivate bankers to sacrifice some small measure of liquidity in order to gain these higher yielding earning assets. They are willing to bid them away from nonbank investors to achieve this gain. In this process, the sellers gain deposits. The rise in deposits results in an increase in required reserves, which poses a problem for the banks, but an easy solution has been provided the banks by the Federal Reserve banks. It is found in the willingness of the Reserve system to absorb the  $\frac{7}{8}$  certificates of indebtedness at par through open market operations, if necessary. This policy allows the member banks to sell these short-term securities to gain reserves which, in turn, permits the expansion of deposits occasioned by the purchase of the longer-term securities in the open market. In this connection it should not be forgotten that, on the present basis of reserve requirements, the acquisition of each dollar of reserves can support about a sixfold expansion of credit.

The inflation potential involved in the ability of banks to monetize the debt by purchase of government securities from nonbank investors has caused widespread comment, and has motivated Federal Reserve authorities and others to make proposals designed to curb



or offset its effects. Brief discussions of some of these proposals are given later in this chapter.

The Board of Governors in its annual report for 1945 expressed fears over the further monetization of the debt in the following words:

There remain outside of the banks approximately 20 billion dollars of Treasury bonds which are eligible for bank purchase. An additional 34 billion, now ineligible for banks to purchase, will become eligible during the next 15 years. Thus, even though the Federal budget is balanced and Government debt continues to be paid down, there will be some 55 billion dollars of Treasury bonds that could be acquired by the commercial banks, in the absence of effective restraint. Commercial banks hold some 20 billion dollars of certificates, and, at least theoretically, could by selling less than half of these certificates to the Reserve system obtain enough reserves, on a six-to-one ratio, to absorb all of this 55 billion dollars of Government bonds. This is wholly aside from what other loans and investment banks could make on the basis of the potential reserves available.

It is this possible further monetization of the public debt which may need to be subjected to more definite restraint, if monetary policy is to be effective and, indeed, if the commercial banks themselves are not to induce a further lowering of the interest rate structure. This in turn would reduce the earnings of banks from sources other than their Government bond portfolios. Furthermore, such continued, uncontrolled monetization of the debt and the consequent decline in interest rates would further accentuate speculative inflationary forces in all capital assets. Constant downward pressure on interest rates arising not from the accumulation of savings but from the creation of unnecessary bank credit is not desirable under inflationary conditions.<sup>7</sup>

## THE TREASURY'S PATTERN OF INTEREST RATES

The access of banks to reserves. Attention has been called in previous paragraphs and chapters to the fact that a necessary condition for bank credit expansion is the access of banks to additional reserve balances. An expansion of the earning assets of the system of individual banks creates additional deposits which, in turn, necessitate additional reserve balances. The acquisition of greater reserve balances during the war years was made easy by reason of the declared policy of the Federal Reserve System to provide sufficient reserve

<sup>7</sup> *Annual Report of the Board of Governors of the Federal Reserve System*, 1945, p. 4.

balances to enable banks to absorb all newly issued government securities that were not taken by other investors.

An integral part of this policy was the maintenance of the structure of interest rates at approximately the same levels existing at the beginning of the war. This structure of interest rates came into existence in the prewar period when conditions favorable to a low level of interest rates prevailed. It was a period of low demand and great supply of loanable funds, the supply being swelled by large net gold imports. The rates prevailing on short-term paper were particularly low, doubtless due in part to a widespread expectation that interest rates would rise in the near future, and in part to a depression-born desire for a high degree of liquidity. A great spread between yields on short-term and long-term paper was carried over into the Treasury's patterns of wartime interest rates on government securities.

During the war years and thereafter until July, 1947, the Treasury maintained a pattern of interest rates on the securities of the United States Government approximately as follows:

- $\frac{3}{8}$  per cent on 91 day Treasury bills
- $\frac{3}{8}$  per cent on 1 year Treasury certificates of indebtedness
- 1-1 $\frac{1}{2}$  per cent on 3 to 5 year Treasury notes
- 2-2 $\frac{1}{2}$  per cent on United States Government bonds
- (These are yields at par, not yields on market values)

In order to assure the Treasury that these yields could be maintained with successive flotations of securities during World War II, the Board of Governors of the Federal Reserve System lent its support through an offer to purchase short-term government securities in the open market. This action prevented short-term interest rates from rising above the level of the Treasury's pattern of rates. Thus the Board of Governors cooperated with the Treasury in its efforts to keep the interest cost on the debt as low as possible.

Considerations other than the desire to hold down the interest cost on the federal debt which induced the Treasury to hold fast this pattern of rates on government securities were: (1) it removed the expectation in investors' minds that rates would rise with each successive issue of government securities, which expectation unless eliminated would have caused investors to withhold purchases; and

(2) it assured a continuously strong and active market for outstanding issues.

## THE MECHANICS OF PUBLIC DEBT RETIREMENT

The corollary of debt creation as an agency of inflation is that debt retirement is an agency of deflation. That this proposition is true can hardly be doubted, but the deflationary pressure of debt retirement differs with the circumstances under which it is accomplished. If nonmonetary factors operating in the direction of inflation are extremely strong, debt retirement can serve only to depress the net effect of those forces. At a time when the economy is sensitive either to deflationary or inflationary factors, debt retirement can be effective in accomplishing the desired results. A further consideration concerning the effectiveness of debt retirement relates to the identity of the holders of the securities that are scheduled for retirement. Still another observation relevant to the problem is that the Treasury might retire debt either from previously accumulated balances or from a surplus of current tax receipts over expenditures. We shall present the different situations under which federal debt might be retired according to the following order:

1. Debt retirement from Treasury deposit credits with banks, where government securities are held by
  - a) the commercial banks
  - b) the Federal Reserve banks
  - c) nonbank investors
2. Debt retirement from a surplus of Treasury tax receipts over Treasury expenditures, where government securities are held by
  - a) the commercial banks
  - b) the Federal Reserve banks
  - c) nonbank investors

**Debt retirement with Treasury deposit credits.** An illustration of the retirement of a portion of the federal debt by withdrawals from deposit credits of the Treasury in commercial banks was furnished in 1946. At the beginning of that year the Treasury had huge balances in war loan accounts as a result of oversubscriptions to the issues of government securities offered in the Victory Loan drive of

December 1945. From the end of February 1946 to the middle of December of that year over \$23 billion of Treasury securities were retired by being called for redemption or by being paid at maturity. The result was that the Treasury's deposits in war loan accounts were reduced from \$24.4 billion to \$2.2 billion.

Whether the retired securities were held by the commercial banks, by the Federal Reserve banks or by nonbank investors, the Treasury first transferred funds from war loan deposits to its accounts with the Federal Reserve banks. In all of these three situations, the book-keeping entries occasioned by this act, designated as *Step 1*, were as follows:

THE MEMBER BANK

ASSETS	LIABILITIES
Reserve balances —	War loan deposits —

On the books of the Federal Reserve banks, *Step 1* resulted in the following entries:

THE FEDERAL RESERVE BANK

ASSETS	LIABILITIES
	Reserve balances of member banks —
	Treasury deposits +

*Step 2*, the process of payment for the securities that were retired, differed, depending on the identity of the holders of the securities that were retired. *In the case of securities that were held by the member banks*, *Step 2* required the following entries:

THE MEMBER BANK

ASSETS	LIABILITIES
Government securities —	
Reserve balances +	

THE FEDERAL RESERVE BANK

ASSETS	LIABILITIES
	Reserve balances of member banks +
	Treasury deposits —

It should be observed that the net effect of *Step 1* and *Step 2* was to leave member bank reserve balances at the same level as before,

while member bank holdings of government securities and their deposit liabilities to the government declined. The public's holdings of cash and liquid assets were unaffected by these actions. The important consideration was that the debt retirement by the means described took away from member banks a part of their credit expansion potentialities, since it reduced their holdings of securities that might have been sold to the Federal Reserve banks for the purpose of providing a broader base for credit expansion. The volume of securities held by banks that was retired was not, however, great enough to offset inflationary factors operating in the economy in 1946.

*The retirement of federal debt held by the Federal Reserve banks* by withdrawals from Treasury accounts in commercial banks involved, firstly, the transfer of funds from war loan accounts to Treasury deposits with the Federal Reserve banks. Thus *Step 1* here was the same as in the case of the retirement of government securities held by the member banks, namely, member bank reserve balances and war loan deposits declined, while Treasury deposits at the Federal Reserve banks increased. *Step 2*, however, differed because in this case securities held by the Federal Reserve banks, not by the member banks, were retired. Hence the following entry was made on the books of the Federal Reserve banks:

#### THE FEDERAL RESERVE BANK

##### ASSETS

Government securities —

##### LIABILITIES

Treasury deposits —

Thus in this case the member banks that lost reserves in *Step 1* did not regain them in *Step 2*. As a result of the decline in their reserve balances, a third step had to be taken by some member banks whereby their reserve balances were replenished. *Step 3*, if taken, resulted in the sale of government securities by member banks to the Federal Reserve banks and reduced the credit expansion potential of the member banks, as compared with their situation had the Treasury not withdrawn its war loan deposits from them.

*The retirement of federal debt held by the public* (individuals, partnerships, and corporations) involves the shift of Treasury deposits in war loan accounts, as in the situations previously described, to Treasury deposits with the Federal Reserve banks. *Step 2* in this:

situation involves payments to the public which are deposited in banks, and are described by the following entries:

THE MEMBER BANK

ASSETS	LIABILITIES
Reserve balances $+$	Demand deposits of individuals $+$

THE FEDERAL RESERVE BANK

ASSETS	LIABILITIES
	Reserve balances of member banks $+$
	Treasury deposits $-$

The net result of adding *Step 1* and *Step 2*, in this case, was that government deposits were transformed into individual deposits, while reserve balances of member banks showed no net change. Higher reserve balances, however, were required, since war loan accounts were reserve-free until July 1, 1947. With the exception of these higher required reserves, nothing was accomplished in the way of checking inflation by these actions.

Retirement of federal debt from tax receipts. The process of federal debt retirement by means of withdrawals from war loan accounts was essentially a process whereby the Treasury withdrew from the economy the money injected into the economy during the Victory Loan drive. The debt of the Government of the United States rose during this drive and fell subsequently. Taking the period from the beginning of this drive to the end of this process of debt retirement, no net anti-inflationary effect could have been achieved if the securities sold during the drive were the same as those retired. If, however, more bank-held debt was paid off after the drive than was created during it, some anti-inflationary effect could have been achieved. Since this was the case, some lessening of the credit expansion potential of the banking system was accomplished in 1946.

The end of federal debt retirement from payments out of previously accumulated Treasury balances in 1947 ushered in a period of debt retirement from the use of a surplus of federal tax receipts over federal expenditures. Tracing the effects of debt retirement by the use of funds derived from a surplus of tax receipts over expenditures requires the identification of the holders of the government

securities that are retired. If the securities are held by commercial banks, the effect of their retirement is deflationary or anti-inflationary because the total money in the economy is reduced. This result can be demonstrated by bookkeeping entries, which first describe the collection of taxes, as follows:

#### THE MEMBER BANK

ASSETS	LIABILITIES
Reserve balances —	Demand deposits —

#### THE FEDERAL RESERVE BANK

ASSETS	LIABILITIES
	Reserve balances of member banks —
	Treasury deposits +

The second step is the issuance of Treasurer's checks to the banks as the holders of the government securities that are retired:

#### THE MEMBER BANK

ASSETS	LIABILITIES
Government securities —	
Reserve balances +	

#### THE FEDERAL RESERVE BANK

ASSETS	LIABILITIES
	Reserve balances of member banks +
	Treasury deposits —

When first and second steps are combined, it is seen that the net effect is an equal reduction in bank deposits and in the government security holdings of banks. An offset to this result might, however, take place by reason of the fact that the lower level of deposits requires a lesser reserve balance. Since reserve balances of banks are undisturbed, as recorded by the bookkeeping entries made in these procedures of debt retirement, excess reserves are available as a base for future bank credit expansion. If, for example, the deposits and government security holdings of banks are reduced by \$1 billion, excess reserves are increased by \$200 million, under 20 per cent reserve requirements. These reserves might enable banks to expand credit in a period of general expansion by \$1 billion or more.

Thus the anti-inflationary effect of debt retirement might be made ineffectual.

That the retirement of bank-held federal debt might encourage banks to seek other earning assets can, perhaps, best be illustrated by a profit-making expansion of instalment credit. In this case, the banks that are deprived of some earning assets in the form of government securities extend more credit to consumers, and thereby cause a greater demand for consumption goods. Should this take place in the boom phase of the business cycle, inflationary factors might be strengthened, and later, when a recession occurs, the forces of recession are strengthened by reason of the carryover of consumer instalment debt. To be sure, this argument assumes that consumer instalment credit accentuates the business cycle. Should an objection be raised to this assumption, one can shift the illustration to commercial credit or to the bidding by banks for government securities held by nonbank investors.

The argument advanced by means of these illustrations lends support to the proposition that debt retirement in a period of expansion ought to be accompanied by appropriate monetary policies designed to prevent an offsetting or overbalancing bank credit expansion. In a period of depressed business conditions, as well, monetary policies might be needed to supplement fiscal policies with respect to the federal debt.

*In the case of the retirement of government securities held by the Federal Reserve banks, Step 1 is the same, namely, member bank reserve balances decline and their deposits decline by the same amount. Step 2, in this case, results in a decline in the holdings of government securities by the Reserve banks:*

#### THE FEDERAL RESERVE BANK

##### ASSETS

Government securities —

##### LIABILITIES

Treasury deposits —

The net effect of *Step 1* and *Step 2* is that member bank reserve balances and deposits decrease. Since the member banks do not regain their reserve balances, as in the situation previously described, some of them might find it necessary to replenish their reserve balances by the sale of government securities to the Federal Reserve banks.



Let us next trace some possible effects of *the retirement of federal debt held by nonbank investors*. The first step is the same as in the case of the retirement of bank-held federal debt, namely, bank deposits and reserve balances decline to the extent that federal tax receipts exceed federal expenditures.

The second step—the issuance of checks by the Treasurer to non-bank holders of government securities—requires the following book-keeping entries:

#### THE MEMBER BANK

ASSETS	LIABILITIES
Reserve balances +	Demand deposits +

#### FEDERAL RESERVE BANK

ASSETS	LIABILITIES
	Reserve balances of member banks +
	Treasury deposits —

When the first and second steps are combined, the net effect is seen to be no change in total member bank demand deposits and reserve balances. Bank deposits are, however, in different hands unless taxpayers and bondholders are the same persons. If taxes are collected mostly from persons who hold a small amount of the government securities to be retired and these persons have a high propensity to consume, the effect of the debt retirement might be a lowering of the demand for consumption goods. If, on the other hand, taxes are collected from persons who save a considerable portion of their incomes, and they are large holders of government securities, federal debt retirement is likely to result in a search for substitute investment outlets.

The observations that have been made concerning federal debt retirement suggest that thought should be given to the ownership of the government securities that are scheduled to be retired and to the phase of the business cycle in which the debt retirement is to take place. Two generalizations concerning this complex problem may appropriately be made. One is that federal debt retirement should take place in the prosperity or boom phase rather than in the depression phase of the business cycle. The other is that in the process of debt retirement in the upswing of the business cycle, it is

wise to leave savings as much unmolested as possible. This second generalization means that in prosperity periods funds should not be shifted from lower-velocity to higher-velocity uses. It is doubtful, therefore, that government securities held by individuals, partnerships, and corporations, including insurance companies, should be retired as long as bank-held debt might be selected for retirement. As was previously observed, the retirement of bank-held debt in periods of threatened boom should be accompanied by appropriate central bank policies designed to prevent a credit expansion that would offset, or more than offset, the anti-inflationary effects of the debt retirement. In depression periods, on the other hand, it seems altogether logical that attempts should be made by fiscal policies and monetary policies to shift funds from lower- to higher-velocity uses.

### MONETARY MANAGEMENT IN THE POSTWAR PERIOD

The maintenance of the pattern of interest rates on government securities stimulated bank credit expansion in the postwar period when the economy was burdened, without further bank credit expansion, with a redundant money supply. In this situation the monetary authorities might logically have invoked measures to cut off easy access to additional bank reserves. But the Board of Governors could not invoke traditional measures to do so without abandoning the policy of keeping rates on short-term government securities from rising. It found itself in a dilemma, the prongs of which were traditional monetary policy on the one side and the maintenance of the Treasury's pattern of interest rates on the other. The Board of Governors expressed its postwar problem in the following words:

Unless appropriate policies are devised to deal with the problems arising from an overly ample money supply, a vast public debt, extensive holdings of Government securities by the commercial banking system, and the existing structure of interest rates, the monetary and credit situation can be an unstabilizing element in the economy for many years. *The Federal Reserve System will need to regain control over the volumes of credit and to exercise some measure of flexibility in credit policy, while maintaining the low cost of debt service and continued stability in the Government security market.* (Italics not in original) <sup>8</sup>

<sup>8</sup> Annual Report of the Board of Governors, 1946, p. 4.

In the first full calendar year after the close of the war, the Federal Reserve System continued its policy of buying short-term government issues at the established rates, thereby supplying member banks with additional reserve balances to support bank credit expansion to the extent that banks might wish to avail themselves of the opportunity thus provided. An expansion of \$5,286 million of bank loans (a decline of \$3,664 million in loans on securities and an increase of \$8,950 million of other loans) took place in 1946. A further factor of increase in deposits of individuals, partnerships, and corporations was the purchase by banks of \$7,031 million of government securities and other securities from nonbank investors. These two factors of increase in bank deposits—bank loans and bank purchases of securities—contributed most heavily to the increase of \$14,211 million in deposits and currency in 1946. Since money in circulation declined slightly, all the increase was in bank deposits. It was chiefly bank purchases of government securities from the public and unproductive loans that the Reserve authorities were anxious to prevent.

While refusing to abandon the policy of protecting the established rates on government securities and professing an inability adequately to cope with the situation with the use of powers delegated to them, the Reserve authorities made full use of their powers to determine margin requirements for purchasing listed corporate securities, by fixing those requirements at 100 per cent of the current market value of the collateral. The special wartime control over consumer credit was continued, until such regulation was ended in 1947 by action of the Congress. In the absence of the use of these selective instruments of credit control, the expansion of bank credit might have been greater.

Except for the ability of banks to replenish reserve balances by sales of short-term government securities to the Federal Reserve banks, the Treasury's debt retirement program in 1946 might have been a more significant contractive factor in the banking system. From the beginning of March 1946 to the end of the year, the marketable public debt was reduced by \$23 billion. This debt retirement was accomplished chiefly with Treasury balances in war loan accounts with commercial banks. Of the securities retired \$15.9 billion were held by the commercial banks, \$4.5 billion by the Fed-

eral Reserve banks, and \$6.7 billion by individuals, corporations and others.<sup>9</sup> Mutual savings banks and insurance companies increased their holdings by \$2 billion.

This debt retirement program exerted pressure on the reserve position of the commercial banks by reason of the fact that payments to nonbank investors from war loan accounts transferred funds from government deposits against which no reserves were required<sup>10</sup> to deposits of individuals and business firms against which reserves are required. In addition, the increase in bank loans and bank purchases of securities from nonbank investors increased deposits, thereby causing an increase in required reserve balances. As a result, banks sold, mostly to the Reserve banks, about \$4 billion of securities during the year. Thus the contractive effects of the Treasury's retirement of government securities held by the Reserve banks was largely nullified by Federal Reserve purchases of an amount almost as large. It is for this reason that it was said in the previous paragraph that the debt retirement program in 1946 might have been a more significant anti-inflationary factor had not banks been able readily to sell securities to the Reserve banks.

That the debt retirement program of the Treasury was not a strong deterrent to bank credit expansion is revealed by the fact, previously mentioned, that privately held bank deposits and currency increased by \$14.2 billion in 1946.

In 1947, expansion of bank loans continued unabated, increasing by about \$7 billion, while bank holdings of securities declined in an amount slightly in excess of \$3 billion.

In view of the continued expansion of bank credit and other inflationary developments in the economy, the Federal Reserve System took the first steps away from the maintenance of the Treasury's wartime pattern of interest rates on government securities. Beginning in July, 1947, the "Federal Reserve and the Treasury adopted measures to permit a rise in interest rates on short-term government securities in order to increase their attractiveness to banks and other holders and to place thereby some restraint on further monetary expansion."<sup>11</sup> This decision, commonly called the "unpegging

<sup>9</sup> *Annual Report of the Board of Governors*, 1946, pp. 12-13.

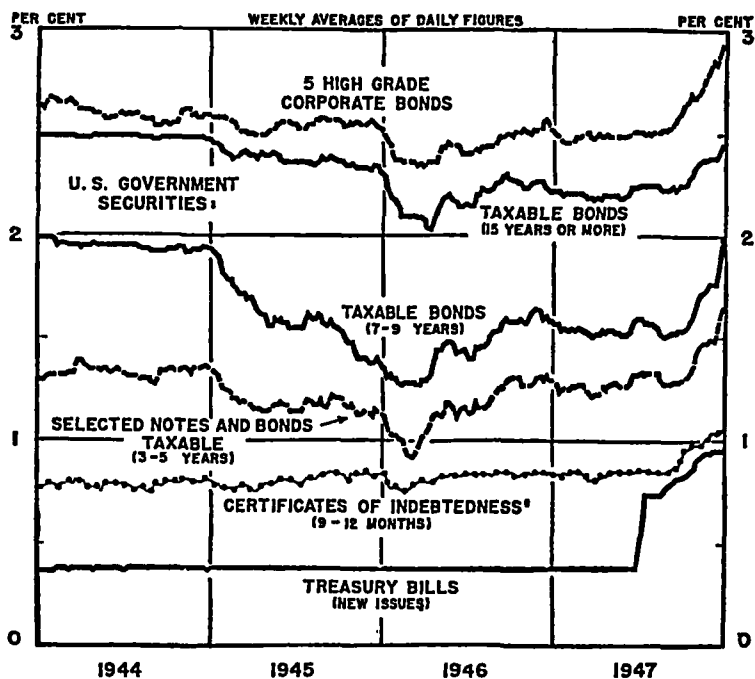
<sup>10</sup> The reserve-free status of the war loan accounts was discontinued on July 1, 1947.

<sup>11</sup> *Federal Reserve Bulletin*, January 1948, p. 11.

of the rate structure," resulted in a rise of market yields on 90-day Treasury bills from 0.375 per cent to 0.95 per cent, and rates on new issues of one-year Treasury certificates gradually rose from 0.875 per cent to 1.125 per cent in the period June to December 1947.

Chart 19

## YIELDS ON TREASURY AND CORPORATE SECURITIES



Source: *Federal Reserve Bulletin*, January 1948, p. 11.

Whether as a result of the rise in the yields on the short-term government issues or as a result of a shift from government securities to loans as an outlet for funds, banks began to sell bonds instead of the shorter-term securities. Savings institutions also began to sell government bonds. Some banks and savings institutions bought the shorter-term securities while, at the same time, bank loans continued to increase. The Federal Reserve System thereupon sold the shorter-term issues and bought the longer-term issues. Purchases, however, were at lower prices than had previously prevailed. Interest rates on all issues of government securities in the market rose and also on corporate issues, as is shown in Chart 19.

Table 47 shows the operations of the Federal Reserve System in the government bond market from November 19, 1947 to January 28, 1948. It will be observed that the net effect of these operations, excluding purchases for Treasury investment account, was a reduction in total Federal Reserve holdings of only \$67 million.

Thus the Federal Reserve System continued to carry out its announced intention to promote an orderly market for government securities. In doing so, however, it was obliged to buy government securities in a period of inflation, which action is contrary to traditional central bank policy that would call for a policy of monetary contraction rather than expansion.<sup>12</sup>

Obviously, the Federal Reserve System had not, by the end of January, 1948, escaped the dilemma caused by its acceptance, in the period of the war, of an obligation to furnish the commercial banks

TABLE 47

INDICATED OFFICIAL GOVERNMENT SECURITY  
STABILIZING OPERATIONS

(Millions of dollars)

Week ended	For Treasury investment accounts *	Change in Fed. Res. holdings of bonds over 5 years to maturity	Total support for long-term governments	Change in Fed. Res. holdings of governments under 5 years	Change in total Fed. Res. holdings
Nov. 19, 1947	0	+ 43	+ 43	+ 127	+170
26	+109	+ 120	+ 229	- 103	+ 17
Dec. 3	+157	+ 131	+ 288	- 250	-119
10	+ 81	+ 123	+ 204	- 258	-135
17	+285	+ 181	+ 466	- 509	-328
24	+255	+ 297	+ 552	- 54	+243
31	+ 30	+1116	+1146	- 457	+659
Jan. 7, 1948	0	+ 214	+ 214	-1090	-876
14	0	+ 312	+ 312	- 101	+211
21	0	+ 351	+ 351	- 707	-356
28	n.a.	+ 631	+ 631	- 184	+447
Total for 11 wks.	+917	+3519	+4436	-3586	- 67
n.a. Not available.					

\* For Old-age insurance and Unemployment trust funds and Postal Savings System as deduced from the Treasury daily statements.

Source: *Monthly Letter on Economic Conditions, Government Finance*, The National City Bank of New York, New York, February 1948, p. 17.

<sup>12</sup> The sales of short-term securities by the Reserve banks made in the same period—the latter part of 1947—can hardly be said to have been undertaken in vigorous pursuit of traditional central bank policy, because the extent of these operations merely offset the expansive effects of their purchases of the long- or medium-term issues.

with reserves sufficient to enable them to absorb all newly issued government securities not bought by other investors.

*Uses of Treasury cash surplus, first quarter, 1948.* The first quarter of 1948 affords an excellent illustration of the uses that can be made of a Treasury cash surplus to provide a counterinflationary force in the economy. In this short period of three months the Treasury accumulated a cash operating surplus of \$6.3 billion and sold \$0.3 billion of savings bonds, thereby producing total surplus cash funds of \$6.7 billion. Disposition of these surplus cash funds was made as follows: <sup>13</sup>

Retirement of U. S. Government securities held by the Reserve banks	\$3.9 billion
Treasury deposits at the Reserve banks	0.3 "
Treasury deposits at commercial banks	1.2 "
Retirement of U. S. Government securities held by nonbank investors	0.4 "
Retirement of U. S. Government securities held by commercial banks	0.6 "
Purchase of U. S. Government securities for U. S. Government trust funds	0.3 "
	<hr/> \$6.7 billion

The \$4.2 billion of the Treasury's cash funds that were used to retire U. S. Government securities held by the Reserve banks and to build up Treasury deposits with the Federal Reserve banks was a factor decreasing bank reserve balances in this period, the first quarter of 1948. This factor decreasing bank reserve balances was, however, largely offset by factors increasing reserve balances or decreasing reserve needs as follows: <sup>14</sup>

Increase in gold stock	\$0.4 billion
Decrease of currency in circulation	1.0 "
Decrease in required reserves	0.3 "
Federal Reserve purchases of U. S. Government securities	1.8 "
	<hr/> \$3.5 billion
Reduction in excess reserves	0.7 "
	<hr/> \$4.2 billion

Obviously, except for the Treasury's accumulation of larger balances with the Reserve banks for the purpose of retiring government securities held by the Reserve banks, these factors making reserve

<sup>13</sup> Source: *Federal Reserve Bulletin*, May 1948, p. 488.

<sup>14</sup> *Ibid.*, p. 489.

balances available would have provided a base for a very considerable amount of bank credit expansion.

The effect of the supply and uses of Treasury cash surplus and other factors on the money supply (deposits and currency) in the first quarter of 1948 may be presented as follows:<sup>15</sup>

<i>Contractive factors</i>	
Treasury cash surplus used to retire U. S. Government securities held by	
Federal Reserve banks	\$3.9 billion
Commercial banks	0.6 "
Increase in Treasury deposits with the Reserve banks	1.5 "
Other factors, net	0.5 "
	<hr/> \$6.5 billion
<i>Expansive factors</i>	
Increase in commercial bank loans	\$0.8 billion
Increase in gold stock	0.4 "
	<hr/> \$1.2 billion
Decrease in deposits and currency held by individuals and businesses	\$5.3 billion

Thus the Treasury's fiscal operations and debt management policies resulted in a reduction in the money supply held by the public, despite a very considerable increase in bank loans and net gold imports. This demonstration indicates the potentialities of fiscal and debt management operations as counterinflationary forces. Yet, the degree of strength of these operations, in the early months of 1948, no more than retarded the momentum of the inflation. This was made apparent by the revival of rising prices after a period of hesitancy in the first quarter of 1948.<sup>16</sup>

*Controversy over interest-rate policy.* The theoretical basis for controversy over the wisdom of the policy of the Federal Reserve System of supporting a particular interest rate structure rests chiefly on the effectiveness of variations in interest rates in encouraging or discouraging borrowing and lending. In its postwar setting, the controversy has centered around the degree of strength of flexible interest rates as a corrective force in a short-run inflationary trend.

Admitting that the general interest rate has considerable influence on both the employment and the holding of money in the long run,

<sup>15</sup> Source: *Ibid.*, p. 493.

<sup>16</sup> Tax reductions, effective on May 1, 1948, in so far as taxes collected by payroll deductions are concerned, and increased government expenditures for military purposes are expected in the second half of 1948 to make difficult the use of fiscal operations to retard inflationary forces in the economy.



it has been contended by some students of the problem that the nature of the debt (its equivalence to money) is the critical issue, and that the controversy over flexible versus stable rates is not the critical issue. This view<sup>17</sup> holds that the corrective force of interest rates, rising as booms threaten the economy and falling as depressions develop, seems in the past to have been a weak factor impeding, immediately at least, the one trend or the other. That flexible interest rates have not asserted themselves automatically to prevent or retard booms and depressions most certainly is belied by the fact that such booms and depressions have occurred in periods when little or no hindrance to flexibility in interest rates has been exerted by the central bank or the government.

In furtherance of their argument, the proponents of the policy that would keep variations in the market yields on government securities within a comparatively narrow range express a concern over the hardship on individuals, life insurance companies, and endowed institutions caused by declining interest rates. They also fear the danger involved, under different circumstances, in allowing interest rates to rise, especially if market forces indicate that government securities might fall below par.

Professor Seltzer has computed the extent to which the market prices of selected government securities would fall if they should sell on a higher-yield basis.

A 1½ per cent five-year note would drop nearly six points below par if it went to a 2½ per cent basis; an eight-year 1½ per cent bond would drop more than 7 points under par. The 14-17 year 2¼ per cent bond issued in the Victory Loan would drop 6½ points if it went to a 2½ per cent basis; and a 22-27 year 2½ per cent bond would drop about 9½ points below par if it went on a 3 per cent basis. A decline of only 3 per cent in the aggregate market value of commercial bank holdings of governments would wipe out one-third of their total capital funds.<sup>18</sup>

The proponents of flexible interest rates call attention to the difficulties which plaque almost any effort, in a free society, to "peg"

<sup>17</sup> Robinson, Roland I., "Monetary Aspects of National Debt Policy," in *Postwar Economic Studies*, No. 3, December, 1945, Board of Governors of the Federal Reserve System, pp. 73-75.

<sup>18</sup> Seltzer, Lawrence H., "The Changed Environment of Monetary-Banking Policy," in the *American Economic Review*, May 1946. Copyright by The American Economic Association. By special permission of the publishers, p. 75.

a market—that such actions often create the apprehensions they are designed to forestall. In the same vein of thought, these critics say that a pegged rate structure is likely to involve the monetary authorities in strange inconsistencies, such as supporting the market by open market purchases in periods when good policy dictates the opposite action. If interest rates are held unchanged, they say, a situation might develop which requires drastic corrective action of the monetary authorities that might, much more easily, have been averted by free market rates.

The argument that current yields on government securities should not be pegged in a period of boom at levels much if any lower than would prevail in a perfectly free market is supported by the consideration that new capital-goods expansion is a strong factor immediately accentuating inflationary tendencies in the economy. If instead of interest rates remaining pegged at low levels a rise in current yields on government securities is allowed to take place, further capital-goods expansion may be discouraged since prospective investors would be reluctant to invest in the face of an expected rise in general interest rates.

The preceding discussion of the monetary management by the Federal Reserve System and the Treasury in 1947 and 1948 indicates an attempt to allow some degree of flexibility in the yields on government securities while, at the same time, maintaining orderliness in market prices. This policy has yet to be more fully tested before it can be adjudged a success.

## PROPOSALS FOR DEALING WITH THE BANK-HELD DEBT

Because the marketable securities owned by banks can at the discretion of the banks be converted into reserves to support a substantial credit expansion, and because of a fear of the consequences of abandoning market support for government obligations, proposals have been made for dealing with the problem of the bank-held debt that merit attention here. They merit attention, whatever changes they may undergo when subjected to careful scrutiny and argumentation among practical bankers, government authorities, Federal Reserve authorities, and other students of monetary and banking

problems, because the large federal debt is likely to pose a problem of debt management for generations to come. If these proposals, and all modifications of them, are rejected, they nevertheless merit attention because the student of money and banking subjects himself to a good test when he appraises the relative strength of their merits and demerits.

The two proposals that have attracted most serious attention are: (1) *The Security Reserve Plan*, under which banks would be required to exchange a substantial portion of the government securities they now hold for a new issue of nonmarketable United States Government obligations; (2) the payment of outstanding bank-held obligations with Federal Reserve credits, and the readjustment of reserve requirements for all banks to prevent the payments made to them from being used as a base for credit expansion. We shall refer to this second proposal as "direct borrowing from the Federal Reserve."

The first proposal was made by Professor Lawrence H. Seltzer before a meeting of the American Statistical Association in 1940 and again, in a revised form, before the American Economic Association in January, 1946. The main features of this proposal are: (1) by legislation, Congress would require banks with deposits in excess of \$1 million to hold, in addition to other reserve requirements, Reserve Certificates in an amount equal to specified proportions of deposit liabilities; (2) the precise percentage of Reserve Certificates banks are required to hold would be variable, at the discretion of the Board of Governors, within limits prescribed by Congress; (3) the Reserve Certificates would bear interest at a stated figure, such as 1 per cent.<sup>10</sup>

Among the advantages claimed by Professor Seltzer for this plan, the following seem to be most important: (1) it would permanently fund a large part of the outstanding marketable Treasury obligations at a low interest rate and would eliminate many refunding operations; (2) it would restore, in large part, Federal Reserve control over bank credit; (3) it would largely remove the threat of sporadic buying and selling of government securities that creates instability of interest rates and the money supply; (4) it would solve

<sup>10</sup> Seltzer, Lawrence H., "The Changed Environment of Monetary-Banking Policy," *American Economic Review*, May 1946, pp. 65-79.

equitably the problem of bank earnings; (5) it would enhance the liquidity and safety of banks and their ability to assume ordinary risks of lending operations; and (6) it would make further additions to the public debt, if they should occur, more manageable within substantially our present institutional arrangements.<sup>20</sup>

Early in 1946, Professor Leland, Chairman of the Board of Directors of the Federal Reserve Bank of Chicago, proposed a plan similar to the *Seltzer Plan*. He also proposed an alternative plan for dealing with the problem of the bank-held federal debt, which we may call "direct borrowing from the Federal Reserve banks." This alternative plan called for (1) borrowing by the Treasury from the Reserve System enough to pay off its obligations to the commercial banks, (2) a Congressional grant of power to raise reserve requirements for both member and nonmember banks in order to prevent the payments made in exchange for government securities from being used as a base for bank credit expansion, and (3) interest payments on the reserve balances so required to help defray the expenses of banks, the rate paid to be made available at the discretion of the Board of Governors with the approval of the Treasury.

Although Professor Leland has not argued for this plan as being the best proposal for dealing with the bank-held debt, he has appraised it as follows:

This plan, while it sounds radical, is really only an extension of the present system under which the Treasury has sold Treasury bills to the banks which, in turn, have sold them to the Federal Reserve Banks. The Treasury might as well have borrowed directly from the Reserve System in the first place. Open market operations under which the central bank purchases government securities—certificates of indebtedness, notes or bonds—operate similarly. At present the Treasury can borrow as much as \$5,000,000 directly from the Reserve Banks but has borrowed only relatively small sums for short terms on a few occasions under this law. The proposal under discussion would simply extend these borrowings and make them the customary method of acquiring funds

In actual operation, this plan would eventually transfer most of the public debt from commercial banks to the Reserve Bank, as purchases were effected. This plan will be opposed by many as being merely a monetization of the entire public debt; by others as a device for taking all brakes off of public borrowing because of the elimination of market evaluation of credits; by still others as a means for avoiding debt payments

<sup>20</sup> *Ibid.*, pp. 77-79.

at the expense of the monetary system. Some will be sure that the plan leads to inflation rather than being a safeguard against it. The plan might prove beneficial in operation or it might be a calamitous failure. But so can any program of debt management in the years ahead.

Nevertheless this plan and the various "sterilization" schemes to remove the dangers inherent in bank-held government paper need to be given serious consideration. Just how to treat bank ownership of government securities is, at the moment, the central problem of debt management. The problem needs to be solved in a fashion to avoid adding fuel to other forces tending toward inflation. Otherwise to the credit-creating costs of financing the war will have to be added the costs of contributing toward postwar inflation with its inevitable aftermath of losses and liquidation. This price we need not pay. But to avoid it we must develop an equitable preventive program. We can develop such a program only by working at it.<sup>21</sup>

In its *Annual Report* for 1945, the Board of Governors indicated that there were three alternative methods of dealing with the inflationary problem inherent in the postwar banking situation: First, a limitation on the government bond holding of banks, second, an increase in their regular reserve requirements, and third, the holding of short-term government securities or cash under a special reserve requirement. The Board reported to Congress, through its chairman, Mr. Eccles, in December, 1947, its preference for the third of these alternatives. Mr. Eccles, in his testimony, said: "After exhaustive study of the problem the Board has selected the special reserve method as the least onerous, the most equitable, and the most practicable method."<sup>22</sup>

**Features of the Security Reserve Plan.** The Board of Governors, in its report to Congress outlined its security reserve plan, which it has called the "special reserve plan," as follows:

- (1) Banks subject to the provisions would be required, in addition to their regular reserves, to hold a special reserve consisting of:
  - (a) Obligations of the United States in the form of Treasury bills, certificates and notes (with original maturities of 2 years or less); or
  - (b) Cash items, as defined in the next paragraph, to the extent that their total exceeds 20 per cent of gross demand deposits plus 6 per cent of time deposits.

<sup>21</sup> Leland, Simeon E., "The Government, the Banks, and the National Debt," *The Commercial and Financial Chronicle*, January 17, 1946, p. 284.

<sup>22</sup> Statement filed by Chairman Eccles with Committee on Banking and Currency of the House of Representatives, December 8, 1947.

- (2) For this purpose cash items would include the following:
  - (a) Balances with Reserve Banks, including statutory required reserves.
  - (b) Coin and currency.
  - (c) Cash items in process of collection.
  - (d) Balances due from in excess of balances due to banks in the United States.
- (3) The special reserve requirement would apply to both demand and time deposits and would be subject to a maximum limit fixed by statute. A maximum of 25 per cent of gross demand deposits and a maximum of 10 per cent of time deposits will probably be adequate for the temporary period covered by the proposed statute.
- (4) The requirement would apply to all banks receiving demand deposits, including member banks of the Federal Reserve System and nonmember banks—insured and noninsured. It would not apply, however, to banks that do exclusively a savings business.
- (5) The power to impose and to vary the special reserve requirement would be vested in the Federal Open Market Committee and would be limited by law to a temporary period of three years.
- (6) The requirement would be introduced gradually as credit conditions warrant. The authorizing statute could provide that, after a special reserve has been established of 10 per cent against gross demand deposits and 4 per cent against time deposits, further changes would not exceed 5 per cent of gross demand deposits and 2 per cent of time deposits at one time. Ample notice should be given before the effective date of the initial application of the requirement, or of subsequent changes, to allow banks adequate time to make adjustments.
- (7) The following considerations should determine the timing of the introduction of, or changes in, the special reserve requirement:
  - (a) The volume and ownership of special reserve assets and of other assets readily convertible into eligible assets;
  - (b) Past and prospective gold movements, currency fluctuations, or other factors causing changes in the volume of bank reserves;
  - (c) Conditions in the Government securities market;
  - (d) The general credit situation.
- (8) Special reserves and requirements would be computed on a daily average basis for monthly periods, or for other periods by classes of banks as the Open Market Committee might prescribe. The penalty against average deficiencies in the requirement would be one-half per cent per month, payable to the United States.
- (9) The Federal Open Market Committee would be authorized to issue regulations governing the administration of the requirement, to require necessary reports, and to delegate administration with

respect to nonmember banks to other appropriate Federal or State banking agencies.<sup>23</sup>

*Operation of the proposal.* The Board of Governors has argued that the special reserve requirement would accomplish two principal purposes: (1) it would reduce the amount of government securities that banks would be willing to sell to obtain additional reserves; and (2) it would decrease the ratio of multiple credit expansion on the basis of a given amount of reserves. In presenting the plan to Congress, explanations were given of the operation of the plan and its advantages over other proposals.<sup>24</sup>

In these explanations and arguments, the Board expressed the opinion that the reduction of the banks' operating secondary reserves effected by the special reserve requirement would reduce the creation of new reserves and expansion of bank credit through sale of government securities to the Reserve banks. Depending on the percentage requirement of the plan in operation, the ratio of bank credit expansion might conceivably be reduced from 6 to  $2\frac{1}{2}$ .<sup>25</sup> Furthermore, imposition of the new requirement would make possible the more effective use of open market operations and discount rates without upsetting the market for government securities. All this would be accomplished by the plan, it was contended, without decreasing the volume of the earning assets of banks, although it would force banks to meet credit needs of customers largely out of existing loanable funds rather than by the creation of new bank credit.

*Advantages of the proposal.* The Board of Governors argued in presenting the proposal that it would permit an increase in the interest rate on private credit without increasing rates on government securities. It also contended that restraints on the credit-creating powers of lenders—the banking system—are more effective than a rise in interest rates, which is not an effective deterrent in boom conditions.

The advantage of the special reserve requirement over an increase

<sup>23</sup> *Federal Reserve Bulletin*, January 1948, pp. 16-17.

<sup>24</sup> *Ibid.*, pp. 17-19.

<sup>25</sup> During the period from June 1940 to December 1945, total bank deposits of member banks, excluding interbank and U.S. Government deposits, increased about eight times their required reserves. (See Woodlief Thomas and Ralph A. Young in "Federal Reserve Policy," *Postwar Economic Studies*, No. 8, Board of Governors of the Federal Reserve System, November 1947.)

in basic reserve requirements is that an increase in the latter merely forces member banks to sell some securities to the Federal Reserve banks in order to supply themselves with the additional required reserves. So long as additional reserve balances are easily acquired, an increase in basic reserve requirements, unless drastic, is only a slight deterrent to bank credit expansion. Furthermore, no such reduction is accomplished for nonmember banks unless the reserves required under banking regulations of all 48 states are similarly increased.

*Criticisms of the security reserve proposal.* Criticisms of the security reserve proposals have come chiefly from bankers who have protested the implication that bank credit expansion had been a major factor in the postwar inflationary trend. Mr. Allan Sproul, President of the Federal Reserve Bank of New York and Vice Chairman of the Open Market Committee of the Federal Reserve System, in presenting his objections to the proposal said that except for consumer credit and mortgage credit, "this is a picture of an economy in which unusually high consumer spending . . . has been dependent only in a minor degree on the current expansion of bank credit."<sup>26</sup> A more affirmative objection to the plan was made by Mr. Sproul—that it would expose us to grave monetary and market disturbances while being put into effect, and that when in effect it would leave us in much the same dilemma as now. Outlining further his objections, he said:

Unless that requirement (for a special reserve) is reduced to a point where it will exert little restraint on bank lending, we shall be faced with the probability of mass dumping of longer term government securities by deficient banks. Nor can it be expected that, in these circumstances, the banks which are deficient would be able to sell their government securities to nonbank investors, or that there might be some automatic exchange of holdings between banks which are deficient in reserves and banks which have a surplus. The System would have to meet a major threat to an already sensitive government securities market, by buying large amounts of government securities, thus putting more funds into a market we are trying to contract.<sup>27</sup>

<sup>26</sup> Quoted in *National City Bank Letter on Economic Conditions, Government Finance*, January 1948. By permission of the publishers, p. 6.

<sup>27</sup> Quoted in *Monthly Letter on Economic Conditions, Government Finance*, published by the National City Bank of New York, January 1948. By permission of publishers, p. 6.



## HUNDRED PER CENT RESERVE PROPOSAL

Discussions of the recently proposed security reserve plan have largely relegated to the background an earlier proposal for dealing with bank credit expansion—the hundred per cent reserve proposal. This earlier proposal, first advocated by Soddy,<sup>28</sup> would require banks to maintain reserves of 100 per cent against their demand deposits. To put this plan into operation, it has been suggested that either the government or the Federal Reserve banks should take over enough of the assets of the banks, issuing noninterest-bearing notes therefor, to provide a full reserve for all demand liabilities.<sup>29</sup> The notes could be obtained by discounting loans with the monetary authority, that is, the Treasury or the Federal Reserve banks, or through the sale of investments. The effect would be to transfer the business of making loans to the savings departments of banks, which would be limited in their loans to the amount of their savings and time deposits plus capital accounts minus operating cash balances and investment in such banking facilities as buildings and equipment. The intent of the plan is to return to the government the power to issue money and to permit the regulation of the supply of money in accordance with the requirements of the economic system, without making this supply depend upon the volume of bank lending.

The hundred per cent reserve plan is obviously a much more drastic plan than the security reserve proposal as a method of coping with the phenomenon of bank credit expansion and contraction. These two proposals, apart from the extent to which each would curb bank credit, differ in this respect: the purpose of the security reserve proposal is to restore to the Federal Reserve banks control over the commercial banks' reserve balances, while the purpose of the 100 per cent reserve proposal is to place full power over the money supply in the hands of the government. Hence, these proposals pose the question: Shall the Federal Reserve banks or the Treasury formulate and implement a rational interpretation of the monetary requirements of the economy? Proponents of both plans

<sup>28</sup> Soddy, Frederick, *Wealth, Virtual Wealth and Debt*, 2nd edition, New York, E. P. Dutton, 1933.

<sup>29</sup> Watkins, L. L., *Commercial Banking Reform in the United States*. Michigan Business Studies, Vol. VIII, No. 5, 1938, pp. 1-55.

agree that experience confirms the proposition that great variations in bank credit, creating money as it expands and destroying money as it contracts, can be disruptive, and this is avoidable by the use of appropriate controls.

## MONETARY POWERS OF THE TREASURY

The foregoing discussions of the operations of the United States Treasury, which are often undertaken cooperatively with the Federal Reserve System, have been concerned chiefly with the management of the federal debt. Although these operations are worthy of the greatest attention at the present time, it should be recognized that the problem of debt management is attributable to the total spending, taxing, and borrowing activities of the Treasury. Apart from the implementation of policies of debt management, the sources of the Treasury's receipts and their uses affect the behavior of the nation's money supply. Long before debt management had risen in importance to its present position, this was the case.

Since the handling of Treasury income affects the behavior of money, the Treasury exerts monetary powers. Some of these powers originate in specific legislative enactments; others are derived from general powers, as for example, the power to shift tax receipts from one account to another and from one location to another.

Without attempting an exhaustive treatment of Treasury operations, we shall briefly describe the handling of the gold stock, the silver stock, and the Treasury's general fund, with especial emphasis on the relationship of each to the reserve balances of the commercial banks.

The Treasury's handling of the gold stock. The Government's gold policy, prescribed by Congress, has an important bearing on the reserve balances of commercial banks. In general, increases in the monetary gold stock increase bank reserves, while decreases in the monetary gold stock have the opposite effect. Increases in the physical volume of monetary gold originate in net imports of gold, domestic gold production, and reclamation from industrial uses. When gold is imported, a bank in the United States, in most cases a New York City bank, credits the account of a foreign depositor and then sells the gold to the Treasury, receiving in payment a

Treasurer's check drawn against the Treasury's account with a Federal Reserve bank. Upon presentation, the New York City bank's account with the Federal Reserve bank is credited with the amount of the check and the Treasury's account is debited by a like amount. In like manner, a bank's reserve account is credited by the amount of the Treasurer's check issued in payment for the Treasury's purchase of gold from a domestic mining company when the latter deposits that check with a commercial bank. The same result follows the Treasury's purchase of reclaimed gold.

*Sterilization of gold imports.* The process called the *sterilization* of gold consists of the withdrawal from the reserve balances of commercial banks of an amount equal to additions to those balances attributable to the banks' receipts of gold. The Treasury effects the withdrawals from the commercial banks' reserve balances by selling securities equal to the amount of the gold which the Treasury wishes to sterilize.

In order better to visualize the procedures involved in the process of gold sterilization, let us take an illustration wherein the New York City Bank receives \$1 million of gold from a foreign depositor. The steps involved may be set forth in accounting entries as follows:

#### THE NEW YORK CITY BANK

<i>Date</i>	<i>Assets</i>	<i>Liabilities</i>
March 1, 1948	Gold + \$1,000,000	Deposits + \$1,000,000
March 2, 1948	Gold - \$1,000,000 Reserves + \$1,000,000	
March 3, 1948	Gov't securities + \$1,000,000	

The explanation of these entries is as follows: On March 1, the New York City Bank receives \$1 million of gold and gives the depositor credit in the same amount. On March 2, the gold is delivered to the Treasury and the New York City Bank receives a check from the Treasury drawn on its account with the Federal Reserve bank. The New York City Bank deposits this check with the Federal Reserve bank for which it receives credit on its reserve account. On March 3, the New York City Bank purchases government securities from the Treasury by drawing on its reserve balance. The effect of

these transactions is that the original increase in the reserve balance of the New York City Bank is nullified by its purchase of government securities. The sale of the securities by the Treasury replenishes its account with the Reserve bank which had been drawn down by its purchase of the gold from the New York City Bank. To complete the process of sterilization, the Treasury keeps the gold which it has acquired in an inactive gold account.

The net effect of these procedures, other things being equal, is an increase in the deposits of the New York City Bank, an increase in the Treasury's gold held in the inactive account and an increase in the debt of the government.

From December, 1936 to April, 1938, the Treasury's policy was that of sterilization of most additions to the monetary gold stock. The effect was to hold member bank reserve balances at about the same level as at the beginning of the period. In April, 1938, a policy of desterilization was adopted.

*Desterilization of inactive gold.* Under a policy of desterilization, gold acquisitions held in the inactive gold account are allowed to increase commercial banks' reserve balances. This is accomplished by action of the Treasury when it issues gold certificates against the gold and deposits them with the Federal Reserve banks. The Treasury's accounts with the Reserve banks are credited with these deposits. When the Treasury draws on these balances to meet an excess of cash expenditures over receipts, member bank reserve balances, other things being equal, increase.

In April, 1938, gold desterilization increased member bank reserve balances by the Treasury's net expenditures from its deposits with the Federal Reserve banks. This policy was terminated with the announcement on April 19, 1938, that the inactive gold account had been discontinued.

Although the Treasury has not used gold sterilization or desterilization in recent years, these procedures represent monetary powers that might be used in the future.

*The Treasury's silver purchases.* In accordance with the Silver Purchase Act of 1934, the Treasury is required to purchase silver bullion. In payment for these purchases, the Treasurer issues checks to domestic silver mining companies or to foreign sellers of silver, which checks, when deposited in banks, increase bank deposits and

reserve balances. To replenish its balance with the Federal Reserve banks, the Treasury issues silver certificates in the amount of the Treasurer's checks drawn in favor of the sellers of silver and deposits those certificates with the Reserve banks. Thus the net effect of the silver purchases is to increase deposits and reserve balances of commercial banks and to leave Treasury deposits with the Federal Reserve banks at the same level as before the purchases of silver were made. Since bank reserves are increased by these procedures, bank deposits might further increase by credit expansion based on these reserve balances. This power to expand Treasury currency (silver certificates) is therefore a monetary power which is exercised by the Treasury, not by the Federal Reserve System.

The Treasury might also expand its deposits with the Federal Reserve banks under powers granted to it by the Silver Purchase Act. Although it has not as yet exercised the privilege to do so, it might *monetize the seignorage* in the process of converting silver bullion into silver certificates. This possibility exists by reason of the fact that the Treasury is permitted to issue silver certificates in the amount of \$1.29 for each ounce of silver bullion held as security for them. Since the Treasury has paid no more than 90.5 cents per ounce of silver and has issued certificates only to the amount of the cost price of silver, it is permissible that the Treasury should gain credit balances on the books of the Reserve banks in excess of the Treasurer's payments for the silver purchases.

The management of the Treasury's cash balances. Attention has been called to the Treasury's privilege to manage its cash balances. Since actions taken concerning these cash balances may have stabilizing or disruptive effects in the money market, it is important that they be wisely conceived and executed.

Prior to the establishment of the Federal Reserve System, it was recognized that the "sterilization" of the Treasury's tax receipts in the subtreasuries created stringencies in the supply of money in the hands of the public and the banks. Complaints over this matter were partially assuaged by the shifting of funds from the Treasury's vaults to deposits with the commercial banks.

In more recent years, the shifting of Treasury funds between the commercial banks and the Federal Reserve banks possesses essentially the same significance as formerly was attached to the shifting

of funds between the commercial banks and the subtreasuries. Today, increases in Treasury deposits with the Federal Reserve banks have contractive effects on the money supply of the public and the reserve balances of banks, while decreases in this item exert expansive effects.

During World War II, it was recognized that sudden large withdrawals of funds from Treasury deposits with the commercial banks—the war loan accounts—would force banks to sell the government securities which the government had expected them to buy and to hold. In order to make it possible to buy government securities in large amounts, the commercial banks, during the period of the war and for a while thereafter, were freed from all reserve requirements on these government deposits. In order to make it possible for banks to hold the securities that the government had expected them to buy, withdrawals from the war loan accounts were carefully managed to avoid adverse effects on the commercial banks' reserve balances.

After the war, particularly in 1946, withdrawals from the war loan accounts were made deliberately to effect pressure on the banks' reserve balances, under a policy designed to offset a strong movement of bank credit expansion.

The management of the government's trust funds. The magnitude of the operations of the United States Government agencies and trust funds has greatly expanded in recent years. In June, 1940, these agencies and trust funds held \$7 billion of government securities, which is not an insignificant amount. In August 1947, these holdings had increased to an amount in excess of \$33 billion. The most important of the trust funds are those built up under the provisions of the Social Security Act, the Railroad Retirement Account, and the Civil Service Retirement Fund.

The significance of the operations of these funds and agencies, apart from their magnitude, is found in their investment policies. This can be shown by a brief reference to their investment policies in 1946-1947. In an effort to retard a tendency toward lower market yields on government securities (rising bond prices), long-term marketable government securities were sold by these agencies in the open market. The agencies obtained "Special issues" (nonmarketable) from the Treasury in exchange for these marketable issues.

Thus the effect was to increase the market supply of the marketable issues which lessened their scarcity value.

In periods of declining prices for government securities, the agencies might use their funds to purchase marketable issues with a view to supporting the market for them.

Without explaining all the complicated procedures involved in these procedures, it may be said that in the management of the governments trust funds monetary powers are exercised in a manner similar to the open market operations of a central bank.

### SUMMARY

The Federal Reserve System came into existence in the United States after a long period of resistance to any form of concentration of power over money and credit. It was widely feared that concentration of power in private hands or centralization of power in the hands of a government agency would be oppressive. From one direction, these fears were based on the assumption that any agency of control would protect creditors and crush debtors. From another direction, fears were based on the conviction that an agency of control, especially a government agency, would likely take "unsound" actions. The creditor-debtor relationships were the uppermost consideration having to do with monetary matters in the hundred years prior to 1913. Hard money, advocated by creditors, was denounced by debtors as an instrumentality of oppression. Cheap money, favored by debtors, was denounced by creditors as dangerous and unsound. In this tug-of-war, little heed was paid to the over-all level of income and employment on which so much emphasis is placed today. This shift of emphasis came in the process of change from an agrarian economy to an industrial economy.

The Federal Reserve Act of 1913 was a compromise in several respects. It was designed to provide a central banking system that would be controlled neither by the government nor by a small and powerful group of private bankers. It was also designed to avoid both the oppressiveness of an inadequate money supply and the oppressiveness of a plethora of cheap money. Furthermore, it represented an attempt to provide a means of mitigating the severity of

the business cycle, not by minute controls over banking operations, but rather by indirect means designed to affect the rate of interest and the level of bank reserves and deposits.

Great emphasis was placed in the early years of the Federal Reserve System on the fact that the Federal Reserve banks were bankers' banks and that they existed chiefly for purposes of accommodation rather than for purposes of control. Ownership of the Federal Reserve banks was placed in the member banks who were the sole stockholders. As was said in an earlier chapter, such control as was to be exercised by the Federal Reserve System was to be exercised with a view to maintaining the integrity of the doctrine of accommodation.

As a means of avoiding monetary excesses and deficiencies, the Federal Reserve System provided for the issuance of Federal Reserve notes which were to be secured by commercial paper. It was thought that their issuance and retirement would be automatic in character—that the volume being qualitatively determined would regulate itself in accordance with the needs of trade. Similarly, the volume of Federal Reserve bank credit, being based on the rediscounting of commercial paper, would regulate itself in accordance with the needs of trade. Accordingly, no overexpansion of currency and credit could take place.

The boom of 1929 and the following depression years severely shocked the Federal Reserve System and forced important modifications in theory and in policy. The year 1929 revealed the inability of the Federal Reserve System to cope with a boom in one segment of the economy—that its powers were not selective enough. The depression following the boom of 1929 revealed the fact that declining interest rates and ample bank reserves do not necessarily induce prompt recovery. The old adage, "You can lead a horse to water, but you can't make him drink," is applicable to this situation, since business firms might not be willing to borrow, even though money is available at lower rates of interest.

The depression years of the 1930's also taught that attempts on the part of each individual bank to improve its cash position by dumping its assets on the open market can be well-nigh disastrous both to itself and to the banking system. This was shown most clearly in the case of bond sales by banks and the liquidation of



their real estate mortgages. When one bank sold its bonds in order to gain cash, the amount of cash realized resulted in the withdrawal of deposits from some other bank. No gain to the banking system was achieved; in fact, a loss was suffered since the bond market was thereby severely depressed. Similarly, the real estate market was depressed by the liquidation of real estate mortgages. These experiences proved the necessity for shifting bank assets in a period of depression to the Federal Reserve banks, which action serves to take property, such as bonds, out of the market and to put new money into the market.

Among the lessons learned in the 1929 boom, two stand out most prominently. First, that eligibility requirements concerning the rediscounting of paper with the Federal Reserve banks have little or no effect in retarding a boom such as a stock market boom or a land boom. Second, that the Federal Reserve System needs selective as well as general instruments of control. Acting in accordance with these lessons, the Congress gave to the Board of Governors power to determine margin requirements for loans on stock market collateral. By this action, the Board can restrict or liberalize loans for purchasing or carrying stocks without invoking over-all measures of credit control which may be harmful to general business. Later, Congress gave, for a limited time, power to the Board of Governors to invoke regulations concerning the terms of instalment credit.

Although these selective instruments of credit control run counter to the precepts of the original Federal Reserve Act, a strong case can be made for them as means of preventing excesses in the volume of credit in a boom period. The case for them centers around the observation that instalment credit and stock market credit tend to heighten the boom and tend, subsequently, to deepen the depression. The case against these selective controls, especially controls over consumers' instalment credit, centers around the fact that they necessarily involve a large amount of bureaucracy, and that, because they are selective, they single out a segment of the economy for discriminatory treatment.

The Great Depression ushered in a program of action by the federal government to which the name "pump-priming" was attached, later known by the more comprehensive term "fiscal policy." A number of government agencies operated in a rather spectacular

manner and seemed to relegate central bank policy to a sideline position. Moreover, the governing board of the Federal Reserve System seemed to accept an adverse judgment on the efficacy of central banking operations. Nevertheless, it is a mistake to discredit monetary policy for failing to induce prompt recovery and, for the same period of time, to give credit to fiscal policy for inducing recovery with promptitude. Those persons who have considerable faith in the effectiveness of monetary policy insist that it was not given a fair chance, partly because it was not vigorously applied to the situation and partly because it was not given a fair chance in the presence of fiscal operations.

At the outbreak of World War II, the Board of Governors pledged its cooperation with the Treasury in the war-financing program. In addition to rendering great service as the fiscal agent of the government, the Federal Reserve System by its agreement with the Treasury to accept short-term government securities at par greatly aided the financing of the War. This action made it easy for banks to gain reserves whereby they could extend credit in great volume to the government through their purchases of government securities. The proceeds of these and other sales of government securities were deposited in banks (the war loan accounts) against which no reserves were required. This release from reserve requirements and the procedures of handling the war loan accounts (funds were withdrawn from the banks of a community at a rate no faster than the rate at which money flowed into that community) were additional factors making easy the acquisition of government securities by banks, thereby assuring the success of each war loan drive. The rate of acquisition of government securities by banks governed the rate of deposit growth during the war.

The chief component parts of the legacy of war financing were: (1) the banks had gained a great volume of government securities, (2) the public had gained a much greater volume of liquid assets in the form of currency, bank deposits, and government securities, (3) the Federal Reserve banks had been committed to support the Treasury's pattern of interest rates, and (4) the Treasury faced a difficult problem of debt management.

A further monetization of the debt than that which occurred in the war years is inherent in this situation. This is the case because

banks have found it profitable to sell short-term government securities to the Federal Reserve banks and with the proceeds to bid for the public's holdings of bank-eligible securities, which when sold to banks create deposits. Another inflationary factor inherited from war financing is the easy accessibility to additional reserves to support bank loan expansion. Still another is the cash redemption privilege in the discount bonds held by the public.

The dilemma of the Federal Reserve authorities is that while good monetary policy dictates that strong measures be taken to combat inflationary trends, they lack power effectively to invoke them as long as member banks have easy access to additional reserve balances. Controversy has arisen over proposals that would give the Board of Governors additional powers to cope with this situation. Whether the simple expediency of the withdrawal of Federal Reserve support of the rate on short-term government securities will suffice to cope with inflationary trends is a moot question.

The application of good fiscal policy to an inflationary condition would seem to call for the accumulation of a significantly large U.S. Treasury cash surplus. Good debt management, in conjunction with fiscal policy, would seem to call for the use of this cash surplus in the retirement of the greatest possible amount of the public debt in a period of inflation, particularly the securities held by the Federal Reserve banks, and the prevention of a shift in the ownership of government securities from the public into the banks, for it is this shift in ownership that augments the money supply.

Since we have divided responsibilities over the control of money and credit in the United States, it is to be expected that we shall not place implicit faith in one line of action. It is rather to be expected that we shall apply a number of instruments of control at the same time, such as some action by the central bank with the use of a mixture of selective and general instruments of control, some fiscal policy, and some debt management. Each of these used in a timely manner, even though none is pursued vigorously, could possibly be effective, despite the misgivings of the proponents of each one of several possible single lines of action. The timing of the actions taken both in booms and depressions is important, and the fact that it is important makes the criteria or guides used to determine policy doubly important. If one guide is used, less than full

weight might be given to other factors. It is quite likely, therefore, that alongside multiple instruments of credit policy we shall use multiple guides to credit policy. A strong case can be made for using several guides rather than a single one, for complete reliance on one only might allow a dangerous situation to develop and to grow cumulatively worse should the one guide show that no action is necessary.

Thus far in the postwar period of inflation, courageous actions to retard the inflationary forces have not been taken because the temper of the Congress, reflecting the attitude of the people, has been unfriendly to most, if not all, suggested measures of control. To most proponents of monetary measures to curb inflation this has been discouraging, because monetary controls, they have contended, are particularly effective in retarding inflation. Fiscal controls, some of them admit, are superior in combating the forces of depression.

Significant changes have been made in our monetary system since 1929. One of these is the establishment of the Federal Deposit Insurance Corporation. Its contribution to economic stability rests chiefly on the likelihood that it will prevent widespread bank failures in a depression period. By the same token, it should also prevent extensive, panic-born conversion of deposits to currency. Another important change is that the currency, once based on commercial paper the volume of which declined in depression periods, is now based largely on government securities which are not likely to decline in amount in depression years. But the most significant change of all is that the commercial banks possess a huge volume of government securities which are assets that need not be dumped on the open market during a depression period in a futile effort by banks to gain cash. A repetition of the 1931-1932 experience, in which banks competed with each other for a declining money supply by offering property (bank assets) at continuously lower prices, need not occur in the future.

These are some factors favorable to success—at least partial success in coping with the forces of depression—but they presume favorable nonmonetary factors in the economy, and the degree of success we have in coping with future depressions largely depends on the strength of the burden placed on our institutions. In other words, the degree of success in combating the forces of depression

depends in part on the extent to which the forces of boom have previously been retarded.

In the struggle for a more stable economy, the stakes are high—upon the outcome depends the continuing existence of our democratic society. Monetary-fiscal policy, if it is wisely conceived and executed, can play an important role in efforts to achieve greater stability.

### STUDY QUESTIONS

1. Several different views are held concerning the use of monetary policy to correct conditions of economic disequilibria. Some students say that monetary policy provides the most hopeful solution; others say it must necessarily be inadequate; still others say it is unnecessary. Discuss these views and supporting arguments.
2. Criticize the definitions of *monetary policy*, *fiscal policy*, and *debt management* in your textbook.
3. Summarize three points of view concerning the relationship between the national Treasury and the central bank (Federal Reserve banks). Which of these positions is being followed in the United States at the present time?
4. In the period, 1929–1940, when the rise in the federal debt was attracting so much attention—mostly unfavorable attention in the financial press—what trends are observable in the total public and private debt?
5. Compare the financing of World War I and World War II with respect to (a) differences in types of securities offered the public and (b) interest rates on the federal debt.
6. How does each of the following transactions affect the reserve balances and deposit liabilities of the commercial banks:  
(a) purchases of government securities by individuals?  
(b) purchases of government securities by commercial banks?  
(c) sales of government securities by banks to individuals?
7. Explain the process of “the monetization of the federal debt.”
8. Was anything accomplished in the way of checking postwar inflation by the retirement of federal debt through withdrawals of funds from war loan accounts?
9. If the Treasury should wish to use debt retirement as a counterinflationary measure, it would choose to retire securities held by what class of holders—the commercial banks? the nonbank investors? the Federal Reserve banks? Demonstrate with bookkeeping entries.
10. “Except for the easy access of banks to additional reserve balances, the Treasury’s debt retirement program in 1946 might have been a more significant contractive factor in the economy.” Explain.

11. Using the chart of "Yields on Treasury and Corporate Securities," trace the coincidence of Federal Reserve policies with changes in interest rates, 1945-1947.
12. In the first quarter of 1948 the Treasury accumulated surplus cash funds in the amount of \$6.7 billion. It is shown in your textbook that disposition was made of these funds in six ways. Which of these reduced member bank reserve balances? Explain.
13. Explain the effect of the uses of the Treasury's cash surplus in the first quarter of 1948 on the supply of money in the hands of the public.
14. What are the arguments for and against placing complete reliance on flexible interest rates as a corrective force in a short-run inflationary trend?
15. What considerations relating to the postwar economy have given rise to proposals for dealing with the bank-held federal debt?
16. Summarize:
  - (a) the "Seltzer Proposal" for a security-reserve requirement.
  - (b) the "Leland Proposal" for direct borrowing from the Federal Reserve banks.
  - (c) the "Special Reserve Plan" proposed by the Board of Governors of the Federal Reserve System.
17. Explain the two principal purposes that would be fulfilled by the special reserve plan, according to arguments presented by the Board of Governors.
18. Explain Mr. Allan Sproul's objections to the special reserve plan.
19. Differentiate the older "hundred per cent reserve plan" and the more recent special reserve plan.
20. How can the Treasury by means of its operations relating to (1) the gold stock, (2) the silver stock, (3) the general fund, and (4) the government's trust funds, alter (a) the public's supply of money and (b) bank reserves?



*PART SIX*

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MONEY AND CREDIT IN OUR  
WORLD ECONOMY





# CHAPTER

## 23

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### THE MECHANICS OF INTERNATIONAL PAYMENTS

**Introduction.** The two preceding sections of this book have treated, first, the influence of money and credit on prices, employment, interest rates, and income, and second, the manner in which public agencies, particularly the Federal Reserve System and the Treasury, have employed money and credit in an attempt to induce specific economic conditions or to bring about changes in these conditions which are thought to be desirable. Throughout this discussion there has been little mention of the forces which originate from outside the economy and which frequently exert important influences upon these problems, although it has been necessary at certain points to indicate the manner in which gold movements may influence domestic monetary policy.

In approaching the problem of international payments, it will be assumed that the reasons for international trade and exchange are understood. These reasons are summarized in the theory of comparative costs and the description of international movements of capital and credit. Under a completely free system of international trade, each country devotes its resources and labor to the production of those products in which it has the greatest comparative advantage or the least comparative disadvantage, and obtains the goods it needs by purchase from the country which supplies them at the lowest prices. Such a system is denoted as multilateral or omnilateral trade. Not only would domestic resources be allocated to the

points of their greatest productiveness under this system, but capital and credit would also be free to move from one country to another, seeking the point of highest return.

### THE DEMAND FOR AND SUPPLY OF INTERNATIONAL EXCHANGE

Examination of the principles governing the pricing of money in the foreign exchange market may be approached through the familiar principles of price analysis, since the pricing of foreign exchange is only a special problem of the same general type as other problems in price analysis. The examination may proceed, therefore, by determining the sources of demand for and supply of foreign money and by noting the particular characteristics of the markets through which price is determined.

The demand for foreign exchange. For purposes of illustration, assume that the problem is to determine the demand for foreign money by Americans. This demand will be found to center largely in the New York banks which maintain balances with other banks in foreign centers such as London, Rio de Janeiro, Paris, Rome, etc. Demand is a schedule of the amounts of a given currency that will be bought at all possible prices, and will originate from the following needs for foreign currencies.

1. Foreign money will be bought to pay for commodities purchased in other countries by Americans. These goods will include items that are not producible in sufficient amounts in the United States, such as certain of the metals, as well as commodities which are similar to domestic goods but which can be obtained more cheaply abroad. If the price of foreign money should rise, it may be economical for domestic goods to be used or substitutes found to serve in place of goods that are not producible domestically.

2. Whenever American firms are required to pay interest and dividends on their securities that are held by residents of other countries, foreign exchange may be demanded. The same is true whenever American security issues mature or are retired and are held in whole or in part by such investors. These investors will desire the interest and dividends in their own country and will buy their own currencies in making the transfer.

3. Another source of demand for foreign exchange arises from our purchase of foreign services such as marine insurance, ocean transportation, and banking and brokerage services. If foreign money is high in price, it may be desirable for American importers to use American vessels for shipping and American insurance services for protection against loss. Variations in the prices of the foreign currency will therefore have effects upon the amount demanded.

4. If American financial institutions make short-term loans to foreign firms, the exchange of dollar balances for foreign currencies will create a demand for these currencies. An analogous demand is that for balances which develops when American financial institutions buy foreign currencies to repay short-term loans previously contracted with foreign lenders.

5. The purchase of foreign securities by American investors creates a demand for the currencies of the countries in which the investment is to be made. Such transfers are usually considered to be long-term capital movements; however, the existence of well-organized security exchanges in many countries makes possible the sale of the securities on short notice and the conversion of the values represented by them into short-term balances.

6. Other sources of demand for foreign currencies are the expenditures of American tourists traveling in foreign countries, the transfer of governmental funds, charitable contributions, and the remittances of immigrants to relatives and friends still living in the countries from which the senders had emigrated.

**The supply of foreign exchange.** All payments due Americans from abroad create the supply of foreign exchange. The sources of this supply are any payments that are the reverse of those listed above under the demand for exchange. Americans receiving such payments from abroad will sell their claims to New York banks to obtain dollars; the banks will then have a larger supply of balances in foreign centers for sale, or foreign banks will have smaller dollar balances in New York.

Table 48 indicates the volume of trade and capital movements between the United States economy and the rest of the world in a recent year. It is significant that, under present disorganized conditions of world trade, a considerable proportion of this trade was financed by the United States Government either through gifts,

credits, or lend-lease. The table indicates that the United States supplied goods and services to the rest of the world in the amount of \$15.3 billion and received from other countries goods and services valued at \$7.1 billion, thereby creating a credit in our favor of \$8.2 billion. This condition is described by the statement that the United States during this period had a surplus in the balance of payments on goods and services account while all other countries had a deficit of payments with the United States on these accounts. By reference to the other items in the table, it can be seen that \$2 billion of the deficit was paid by shipment of gold to the United States or by drawing checks on bank balances in the United States. The remainder of the deficit was financed by outright gifts or loans.

TABLE 48

INTERNATIONAL TRANSACTIONS OF THE UNITED STATES, 1945<sup>1</sup>

(In billions of dollars)

	Credits (Payments to us)	Debits (Payments by us)	Net credits (+) or debits (-)
Goods and Services:			
Recorded exports and imports	9.7	4.9	+4.8
Other transfers of goods	2.5	0.3	+2.2
Services	3.1	1.9	+1.2
Total goods and services	15.3	7.1	+8.2
Donations by the U. S.:			
United Nations Relief and Rehabilitation Administration			-1.5
Supplies to occupied areas			-0.6
Lend-lease			-0.1
Other government aid (net)			-0.2
Private donations			-0.7
Total			-3.1
Transfers on U. S. Government credits:			
Export-Import bank disbursements			-1.0
British credit			-0.6
Lend-lease pipeline credits			-0.5
Surplus property credits			-0.9
Total			-3.0
Use of foreign gold and dollar resources (net)			-2.0
Miscellaneous (net)			-0.1

<sup>1</sup> Thirty-third Annual Report of the Board of Governors of the Federal Reserve System (1946), p. 36.

## THE MARKET FOR FOREIGN EXCHANGE

The technique of international payments. An American desiring to make payments abroad may either purchase the money of the country in which the payment is to be made, purchase a bill of exchange or a draft on a bank in the foreign country, or buy a banker's acceptance which specifies payment in the currency desired. Most common of these methods is the second, for the business firm is not usually in a position to conduct its own operations in the exchange market. The foreign exchange departments of the New York banks buy and sell drafts on banks in foreign centers to such firms and individuals. They cover their expenses and earn profits by means of the spread between the prices at which they buy such drafts and sell them.

Several types of foreign drafts may be distinguished here although there are a number of others that are not treated. Common forms are the cable, demand draft, and the commercial bill. Each of these under ordinary circumstances will have its own price in the exchange market. The *cable* permits the owner of the draft to transfer a balance in a foreign center by means of telegraph to a firm which he owes. Since the bank selling such a draft is required to have the balance immediately available in the foreign center, its charge for this bill will be higher than for the other forms. The banker obtains these balances in many cases by borrowing in the foreign center, hence he must allow enough in his charge to cover his interest cost. The *demand draft* is transferred through ordinary mailing methods and will not reach the foreign center for a period determined by the speed of transportation used. This delay gives the American foreign exchange banker an opportunity to purchase other bills in the New York market with which to cover his outstanding obligations or to purchase cables if he is unable to obtain demand drafts from exporters. The *commercial bill* is offered in the market by the exporter who has sold goods in the international market and wishes to obtain dollars for the foreign time draft with which he has been paid. The rate on the commercial bill is therefore the buying rate of the foreign exchange banker; this rate will vary in price, depending upon the date of the maturity of the bill. In general, the longer the maturity of the bill, the greater will be the banker's discount from

its face value since he presumably loses the interest on the investment during the time to maturity and also runs the risk of a change in the price of the foreign money. There would be no such loss of interest and no risk in case he were able to find an importer who wished to cover a future requirement for foreign exchange by purchasing immediately rather than taking a chance on a change in the price of the exchange during a 60 or 90 day period.

Of the several rates briefly described above, the demand rate is usually considered the basic rate from which other rates are determined, the cable selling for a slightly higher price while the commercial bills are somewhat lower.

**Par of exchange.** When two or more countries are on the gold standard the par rate of exchange between them can be readily determined by comparison of the relative amounts of gold in each of them or into which they are convertible. Prior to the departure from the gold standard by England and the United States, the par between the pound sterling and the dollar was \$4.86656, that is, one pound sterling would buy that number of dollars. This par was determined by calculating the ratio between 113.0016 grains, the weight of the gold in a pound, and 23.22 grains, the weight of gold in a dollar. When England stopped redeeming her money in gold in 1931, she did not change the theoretical relation between the pound and gold; the devaluation in the United States involved a change in the amount of gold represented by the dollar to 13.715 grains. The par between the currencies therefore became \$8.2397. This figure does not have the meaning of the former par, however, for England has not redeemed the pound in gold since the parity between it and the dollar was changed.

**The gold points.** Under the international gold standard, an individual desiring to make payments in a foreign country may obtain balances abroad by several different methods: he may ship an amount of gold which will buy the required number of the foreign money units; he may purchase a bill of exchange or draft from a foreign exchange banker; or he may buy a draft on a foreign bank from an exporter who has obtained the draft from a foreign customer. In actual practice, since the businessman is not an expert in foreign money, he will buy the draft from a banker. If he is an exporter, he will possess foreign drafts which he will sell to the

banker. The bank is therefore the point at which the demand for and supply of foreign money are brought into balance by the rates established for that money. If the price which the banker finds he must pay for foreign money is high, he may choose to export gold and obtain balances in the foreign center at a lower price. The price at which the banker will prefer to make payments by shipping gold rather than by purchasing drafts from exporters is called the gold export point; the price at which he will prefer to import gold rather than to sell his drafts is the gold import point.

The amount by which the gold export point will exceed the par of exchange and the amount by which the gold import point will be less than the par is determined by the costs of shipping gold between the exchange markets in any two countries. These costs include the freight charges, insurance while in transit, packaging costs, and loss of interest, as well as the bankers' operating profit. During the years before the abandonment of the gold standard, the export and import points between the dollar and sterling were around two cents above and below par. These costs will vary from time to time, so that no precise figure can be given.

Assuming a gold standard, the banker would not pay more than \$4.8665 plus \$0.02, or \$4.8865, nor will he sell for less than \$4.8465. If conditions in the market raise the price above the gold point, the banker will buy gold from the Treasury (that is to say, present his money for redemption) and ship it abroad to obtain balances which he then sells in the domestic market to reimburse himself and obtain his profit. If, on the other hand, the supply of foreign balances being offered in the domestic market is so great compared to demand that the price falls below the gold import point, the banker buys the drafts and sends them abroad where he secures a foreign balance which is then used to purchase gold from the foreign Treasury. The gold is then returned to the banker's country where it is available for use in ordinary banking operations. In the language of price analysis, it may be said that the supply of foreign exchange is infinitely elastic at the gold export point and that the demand is infinitely elastic at the gold import point.

The market for foreign exchange is a world market, under normal circumstances, closely integrated by telephone, telegraph, and radio. The price of any given money is made not only in the home coun-



try's leading financial centers but in all the markets throughout the world where the currency is traded. Any set of conditions which causes sterling to decline in price in New York, for example, will also make sterling weak in all other markets, unless the decline of sterling in terms of dollars is due to conditions which make the dollar strong. The quotations for foreign exchange in the various centers where exchange is bought and sold are held in close relationship by the arbitrage transactions of traders. An example will clarify this point.

Suppose that the par of exchange between the pound and the dollar is  $\$4.00 = \text{£}1$ , but that on a given day the demand for pounds in New York is strong and that the price of pounds rises to  $\$4.04$ . Suppose that on the same day the dollar is strong in London and the price ratio between pounds and dollars there is  $\$3.98$ . Under these circumstances, foreign exchange dealers can make a profit by exchanging dollars for pounds in London to obtain sterling balances which they then use to offer pounds in New York. The increased supply of sterling offers in New York and the larger supply of dollar offers in London will drive the prices of the two currencies toward a price where a single ratio between them prevails in the two markets.

## EQUILIBRIUM OF EXCHANGE RATES

Examination of the fluctuations of exchange rates over a period of several years will often show that they vary widely at times, while in other periods they are fixed or vary only narrowly. The area within which these variations take place is determined by the type of money system used by the countries whose currencies are compared, as well as the degree and manner in which control of the exchanges, if any, is exercised. Before examining these conditions, it will be useful to consider for a moment the definition of equilibrium which has been used in the study of this problem.

The equilibrium rate of exchange between currencies has been variously defined but there has been a general tendency to start from the consideration of the balance of payments and then to inquire into the surrounding conditions which create the balance at a given point. If the payments to and from a country are brought

into balance only by export of gold, the balance is unstable, for continued export of gold will leave the country without monetary reserves. It is necessary to add to the balance-of-payments concept the further fact that the balance must not be achieved by serious loss of monetary reserves. A condition such as this is indicated in Table 48 on page 592 where exports of the United States are shown to exceed imports by \$8.2 billion, the difference being paid by the shipment of gold and dollar reserves of \$2 billion and the remainder by loans and donations of the government and people of the United States.

A balance of payments under these conditions can continue with the same high level of exports only as long as the loans and gifts continue and the monetary reserves last. If the loans and gifts were discontinued, the balance of payments would still be achieved, but only by a decline in the volume of merchandise and service exports. It can therefore be seen that the balance of payments alone cannot serve satisfactorily as the criterion of an equilibrium rate of exchange. By reason of this fact as well as other reasons that will be discussed below, the rate has sometimes been defined as the rate that maintains the balance of payments equilibrium without a loss of gold reserves that endangers a country's ability to redeem its currency.

The balance of payments under a gold standard. One of the basic conditions determining the manner in which an equilibrium will be reached in the exchange market is the monetary system employed. Since the theory of the gold standard has been well developed, it will afford an excellent point of departure for further consideration of the question.

Under the gold standard, differences in the purchasing power of gold (prices) in the several countries are equalized by movements of gold. If, for example, prices in the United States should rise relative to those in England, American merchants would find it desirable to purchase pounds sterling in order to buy goods in England. The continuation of the price disparity will eventually cause the price of sterling in New York to rise above the gold export point, leading to shipment of gold to London and thereby reducing monetary reserves in the United States. Moreover, the larger supply of goods in the domestic market and the smaller supply in the English

market will tend to raise the prices of English goods and lower ours. Thus the supply of money in England is increased, the supply of goods reduced; in the United States, the reverse occurs. The process will be continued until the price disparity is eliminated. It should be noted that this discussion tacitly assumes that the adjustment under the gold standard will take the exclusive form of a price adjustment.

More recent investigations of the behavior of prices under the gold standard have shown that all too often prices are relatively rigid. Wages are difficult to adjust downward; prices are frequently administered in such a way as to be unresponsive to decreases of demand; and taxes and other socially imposed costs are not readily reduced. The consequence of these conditions is that income falls rather than prices when gold is exported. Hence, the movement of gold from one country to another under the stimulus of a difference of costs expressed in gold, brings an adjustment, not of prices but of employment. The flow of gold will be brought to a halt when the decline of domestic income has reduced the domestic demand for goods to a level where it is no longer profitable to import goods.

It is for this reason that the definition of equilibrium must include consideration of other variables than merely the balance of payments. The level at which the balance is obtained and the changes in national income, employment, and prices necessary to obtain the balance are highly important.

A second kind of disturbance to equilibrium confronted by the gold as well as other standards arises when the residents of one country wish to make investments in securities in another. Under these conditions, assuming that the foreign exchange rate previously expressed an equilibrium between the prices of goods in the two countries, ignoring transport costs, the price of the foreign money will be increased by the additional demand. The rise in the price of the foreign balances will deter a part of the demand for these balances arising from importers and will therefore lead to a decline in the volume of imports. In the foreign center, the larger supply of dollars, let us say, causes a decline in the price of dollars, and stimulates the purchase of goods in New York. Thus the demand for long-term foreign securities by American investors will have the effect of raising the volume of American exports compared to the vol-

ume of imports,<sup>2</sup> and equilibrium will be achieved with a different direction to the flow of trade. If the demand for foreign securities were strong enough to raise the price of foreign money above the gold export point, equilibrium would have been achieved in part by the movement of gold from one center to another.

Since movements of gold in response to disequilibrium conditions often led to difficult and domestically undesirable adjustments of prices and incomes, the countries of the world, especially after World War I, undertook to neutralize the effects of such movements by central banking action. Thus, if the domestic supply of money was contracting as a result of an outflow of gold which was decreasing commercial bank reserves, the central bank followed an easy money policy in order to restore these reserves to the level required by the currently existing volume of deposits. Such action robbed the gold movement of its power to deflate the domestic economy to a level where it could compete in world trade. Moreover, if disequilibrium conditions are sustained by such action, the outflow of gold will continue, since domestic goods remain overpriced in terms of foreign goods, and if the outflow of gold continues, the central bank's reserves of gold will ultimately be exhausted.

The failure of gold movements after 1921 to equilibrate world prices and to produce a return to the conditions of steadily expanding income that had characterized the period before 1914 can be blamed, in part, on defective policies adopted by governments and central banks throughout the world. However, most of the blame can be laid to the different circumstances that distinguished the postwar world from the prewar world. Trade had been seriously disturbed, production was dislocated, much of the world's gold had been concentrated in a few countries, and the existence of heavy war debts and reparations payments greatly complicated the task of establishing a stable system of international payments.

When these conditions had proceeded so far that much of the

<sup>2</sup> It is possible to carry this type of analysis still further by inquiring into the source of the funds used by American investors to purchase foreign drafts and the disposition of the funds received by the sellers of these drafts, and to examine similar relationships that will be stimulated in the foreign center. To do so is beyond the scope of this book. Anyone wishing to examine this problem will find the analysis by Professor F. Machlup very interesting. See "The Theory of Foreign Exchanges," Part II, *Economica*, Vol. VII (New Series), No. 25 (February 1940), pp. 23-50.

world's monetary gold was concentrated in a few countries, notably the United States and France, other countries were forced to find another solution of their problem of making international payments rather than continuing the drastic deflation of prices and incomes that would have been required to recover the gold to support their currencies. They abandoned the gold standard and chose: (1) to devalue their currencies in terms of gold; (2) to establish funds for the stabilization of their currencies in terms of the money of other countries; or (3) to impose rigid measures for control and allocation of foreign exchange. Under these systems, the problem of the equilibrium rate of exchange assumes a different aspect.

**Devaluation and the balance of payments.** Devaluation of the currency has been a popular measure for the establishment of a better relationship with other countries' monies since World War I. Countries seeking this means of relief from the pressures of deflation accomplish their purpose by reducing the quantity of gold which their money unit contains or, if they are not on a gold standard, by lowering the price in terms of other currencies at which they will give official support to their money by purchasing it in the market. The end sought is to cheapen home goods in terms of foreign money so as to stimulate the flow of exports and thus sustain the domestic level of prices and incomes.

It is obvious that if such measures are successful in accomplishing their purpose, other countries will lose the trade gained by the country whose currency has been devalued. Devaluation therefore will frequently cause other countries to invoke retaliatory measures such as tariff barriers, exchange controls, and devaluation of their own currency. Where devaluation of other currencies is equal to the devaluation of the country which initiated the action, manifestly neither can gain from the other. Policies of this kind are most likely to succeed where the country using devaluation as an instrument of international aggrandizement is too small to induce similar and retaliatory measures on the part of its neighbors. Nor may devaluation follow when the internal conditions of a country make this course unfeasible, as was the case with France between 1931 and 1936. The devaluation of the franc during and after World War I had developed a substantial inflation of prices, and the French population was strongly opposed to policies which involved inflation.

Where devaluation is used in agreement with the countries whose trade will be affected by the action, it may serve a useful purpose in international monetary relations. Suppose for example that the trade between two countries is out of balance by reason of the high costs and prices in country A compared to the costs and prices in country B. If country A possessed sufficient gold reserves, the unbalanced conditions might require a considerable period of time for the decline of prices and incomes to affect the flow of trade between the two countries and the rest of the world. In the meantime, the industries in country B whose sales were most favorably affected by the increased trade would be likely to find expansion of their investment desirable, hence diverting resources to the production of goods which will not be salable when the flow of trade has been adjusted. If, by mutual consent, the differences between their prices and costs could be adjusted through a change in their exchange rates, the uneconomical diversion of resources would not take place; similar industries in country A might be able to continue to serve the market, whereas under a condition of deflation they would have languished by reason of the overpricing of the home currency. Adjustments of this kind are provided for under the International Monetary Fund Agreement, which is described in the next chapter.

Whenever a country employs devaluation as a means of recovering trade lost to other countries, it faces the problem of determining the extent to which the devaluation should be carried in order to accomplish its purpose and not run the risk of creating inflationary conditions at home by excessively stimulating the demand for goods. The same problem also arises in many other connections where determination of the values of currencies is involved, as will be seen in the next section. No completely acceptable answer to the problem has been found but, in the absence of better methods, the purchasing power parity theory of exchange rates affords a rough approximation of the parity level of the rate when the gold standard is not in use.

*Purchasing power parity method of approximating exchange parity.* The purchasing power parity method of estimating foreign exchange equilibrium values when currencies are not on the gold standard proceeds by reference to a period when the currencies are assumed to be in equilibrium and to the price changes that have

occurred since. Thus, suppose the par between sterling and the dollar had been \$4.8665 when both currencies were redeemable in gold. If the British price level is now 150 per cent while the price level in the United States is 200 per cent of their levels at the old par, the par between the currencies is now the ratio between 200 and 150 or  $1\frac{2}{3}$  times the former rate, or \$6.4887. This rate is assumed to express the relative purchasing power of the two currencies in the two countries. Manifestly, whether this rate represents an equilibrium depends upon a number of circumstances which are not expressed in this calculation: the direction of the flow of trade and capital, the validity of the assumption that the rate \$4.8665 expressed an equilibrium between the two currencies, and the importance of items other than commodities in the balance of payments between the two countries. Moreover, the determination of equilibrium by this method ignores the fact that certain of the commodities in the price indexes are not traded between the two countries. Furthermore, if only internationally traded commodities are selected for use in the price index, we are confronted by the fact that the commodities traded are, in certain circumstances, determined by the exchange rate. A rate which favors exports by one country and imports by the other will lead to the sale by the exporting country of commodities which under a different exchange rate would not have been salable abroad. We must conclude therefore that the purchasing power theory of the equilibrium rate of exchange cannot afford more than a first approximation to the determination of the equilibrium rate when currencies are depreciated.

### EXCHANGE RATES UNDER EXCHANGE CONTROL

The problems relating to foreign exchange discussed above pertain to comparatively free international currency markets, although extensive controls, chiefly in the form of tariffs, interfered with the adjustment of international prices. The widespread breakdown of the gold standard, leading to acute exchange problems in many countries, along with a severe world depression, led to the adoption of exchange controls. The League of Nations<sup>3</sup> reports that, with

<sup>3</sup> *Trade Relations Between Free-Market and Controlled Economies*, League of Nations, 1943, pp. 9-10.

minor exceptions, the general trend among trading nations from 1931 to World War II was toward the more general adoption of controls. The war forced the further extension of the system.

The methods and purposes of direct exchange control are well stated in the League of Nations memorandum cited above as follows:

By requiring that acquisitions of foreign exchange be turned over for disposal to the control agency at rates fixed by it, by prohibiting or limiting through a license system the export of capital, by restricting the use by foreigners ("blocking") of their holdings of domestic balances, and, . . . by limiting through import licenses or by withholding foreign exchange the commodity and service import transactions which operate to increase the supply of domestic funds on the foreign exchange markets of other countries or to deplete the national holdings of foreign funds and of gold, it was hoped that the gold-standard-currency values of the national currencies could be maintained without involving deflationary pressure on the internal price-structures.<sup>4</sup>

It will be observed from this statement that the general effect of exchange control is to hold the price of foreign currencies in the domestic market at lower levels than would have been possible in a free market, and therefore to increase the demand for foreign money compared to the supply of it available. This condition requires a system of rationing so as to direct the available supply to the purchase of goods which are considered essential to the home economy, and results in a lower total volume of trade than would have been possible under free trade and exchange conditions. Furthermore, such a system seeks a balance of trade between each of the individual countries with which the domestic economy trades rather than trusting to the possibility of obtaining a balance in the aggregate of payments to all economies.

In summary, the system of rigid exchange control forces a balance of international payments but at a level that produces a small volume of trade. Since the resulting balance is forced rather than free, it cannot be said to bear any relation to the determination of an equilibrium in the balance of payments.

<sup>4</sup> *Ibid.*, p. 11.



## EQUILIBRIUM OF EXCHANGE RATES UNDER UNRESTRICTED CONDITIONS

In the preceding discussion, exchange rates under a gold standard and under government controls have been examined. In each of these cases a rather rigid or narrowly fluctuating rate results. Suppose that each economy severed the relation of its currency to gold or other commodities and permitted the rate to find its own level in the international market, would not the resulting rate bring an equilibrium in the balance of payments at a reasonably high level of trade and with equity to all countries? In practice such favorable conditions have not resulted from freely fluctuating rates because changes in exchange rates under these conditions tend to be self-reinforcing. Thus a change in a given direction in the price of a currency will lead speculators to act in such ways as to magnify the change rather than acting in ways that will be compensatory. Transfers of capital between countries will be for the purpose of taking advantage of anticipated changes in exchange rates and not for investment. These conditions will therefore lead to rates that fluctuate much more widely than would be possible under either a gold standard or exchange control. Fluctuations of exchange rates would make international trade much more hazardous and would be likely to reduce its volume since the promise to deliver currency of any country at some future date would always involve the risk of wide changes in the cost of that currency.

Freely fluctuating exchange rates therefore yield a balance of international payments as do the other standards but they do so to the detriment of trade between countries at the same time that they stimulate uneconomic transfers of balances for speculative purposes. And these conditions will likely have unfavorable effects upon the level of domestic activity.

The above discussion of exchange rates and the conditions under which they can be expected to remain stable for a period of time has led to certain more or less implicit criteria of the kind of exchange rates desired by those who trade internationally as well as those who benefit through the effects of this trade upon the domestic level of income and employment. These criteria may be stated as follows:

1. The rate of exchange between currencies should be one which maintains the existing degree of international specialization of labor and provides for its increase as industrialization develops throughout the world. A rate which establishes equilibrium at any level less than this will have denied the world the volume of goods and services which existing technology and resources make possible.

2. The rate should be sufficiently stable to promote the trade resulting from such international division of labor. Stability in this case does not necessarily mean an inflexible rate, since there will be times when a change will do more to maintain a high volume of trade than will a constant rate.

3. The arrangement through which exchange rates are established should provide for the fiscal and monetary sovereignty of each nation in such a manner as to permit each of them to establish measures for the promotion of domestic stability and a high level of employment, consistent with the welfare of its neighbors. It should be possible for a country to take measures designed to insulate itself from business cycle influences originating from other countries without jeopardizing its normal volume of trade by doing so. Moreover, if the level of income and employment is depressed throughout the world, it should be possible for a country to take measures to raise its national income without bringing about serious disturbances in the equilibrium of exchange rates existing in the market.

Exchange control provides for a wide latitude in meeting the third of these criteria but it fails to provide adequately for accomplishing the first two. And while a country resorting to rigid exchange controls may obtain wide latitude for its domestic economic policies, it may by the same token prevent the import of goods necessary to a high state of economic wellbeing. It may gain high employment at the expense of high productivity by forcing an uneconomic use of its national resources.

The failure of the gold standard in meeting these criteria is mainly due to the fact that it does not provide for each country's sovereignty in dealing with domestic problems. Programs of economic reform undertaken by a country may lead to a "run" on its currency and the export of gold in quantities which force abandonment of the standard. Moreover, the countries receiving the gold may be required to take actions which are not completely consistent with

their domestic policies. The gold standard also fails by providing a system of exchange rates that is too stable. Rigid exchange rates require that all adjustments of disequilibrium be made by changes in other variables such as employment, income, and prices. While stable exchange rates may be desirable from the standpoint of international trade, for most countries they are secondary in importance to national economic conditions. Consequently they are likely to be sacrificed whenever income sinks to levels well below the potential of the country. It is for this reason that the gold standard is sometimes called a "fair weather" standard.

A solution to these difficult and seemingly irreconcilable problems is now being sought through the establishment of the International Monetary Fund by means of which it is hoped to provide the machinery for the establishment of equitable, reasonably stable rates. This organization is described in the following chapter.

### *STUDY QUESTIONS*

1. What is the meaning of the statement, "French prices are high in terms of dollars"?
2. Why is it stated that the gold standard is inconsistent with national monetary sovereignty?
3. Suppose the United States set up a free gold standard and established a differential of \$0.50 between its buying and selling prices for an ounce of gold. What would be the effect upon the rate on the dollar in other countries?
4. Criticize the balance of payments as a criterion of equilibrium exchange rates.
5. "The price of a foreign currency has little meaning when the country has a strong system of exchange controls." Do you agree? Why? Why not?
6. Under a gold standard or a free system of exchange rates, how will the following affect the price of foreign currencies in the United States: (a) a rise of interest rates above rates in foreign countries; (b) an increase of American imports; (c) greater numbers of American tourists traveling abroad; (d) a fall in American business activity and prices compared to business activity and prices in foreign countries.

# CHAPTER

## 24

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### MONEY AND CREDIT IN AN INTERNATIONAL ECONOMY

**Introduction.** Two great wars and a severe world depression, accompanied by world political revolution, have left a legacy of great confusion in the institutions formerly used to arbitrate values between economies. The acceleration of scientific progress involving more rapid transportation and communication has, at the same time, brought the peoples of the world into increasingly intimate contact with each other. Furthermore, the widening circle of industrialization has developed new competitors in the arena of world business—new competitors who are not content to continue in their role of providing raw materials and ready markets for the older industrial economies. These are the conditions which create friction among people and which require development of machinery for settlement of disputes without resort to force.

The history of banking in the United States affords a useful parallel to certain of the conditions faced today in the organization of international currencies. At one time, the individual banking units of the country operated without much coordination between them, since the separate regions of the country were not closely integrated. Later as the population and trade of the country grew and transportation and communication improved, the banking units were welded into a system through the operation of the clearing house. The basic instability of this system eventually led to establishment of a central banking system which could act as a bank of last resort

in times of financial stress. Today the world has become so closely integrated that a similar need is now felt in the field of international exchange. It is neither possible nor feasible for each country to seek its own advantage, regardless of the effects of its actions upon its neighbors, for the pursuit of such methods, especially since the onset of the world depression, has shown that retaliation will eventually bring a strangulation of trade. The problem today is to find the means to reduce the barriers to world trade and, in the monetary field, this effort is taking place through the establishment of the International Monetary Fund. Other efforts are being made through such means as the International Trade Organization charter to develop commercial trade policies which will supplement and strengthen the provisions for exchange stabilization made in the Articles of Agreement of the International Monetary Fund.

### INTERNATIONAL MONETARY FUND

**Purpose.** The purposes to be served by the establishment of the Fund are set forth in the Articles of Agreement as follows:

1. To promote international monetary cooperation through a permanent institution which provides the machinery for consultation and collaboration on international monetary problems.
2. To facilitate the expansion and balanced growth of international trade, and to contribute thereby to the promotion and maintenance of high levels of employment and real income and to the development of productive resources of all members as primary objectives of economic policy.
3. To promote exchange stability, to maintain orderly exchange arrangements among members, and to avoid competitive exchange depreciation.
4. To assist in the establishment of a multilateral system of payments in respect of current transactions between members and in the elimination of foreign exchange restrictions which hamper the growth of world trade.
5. To give confidence to members by making the Fund's resources available to them under adequate safeguards, thus providing them with opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity.

6. In accordance with the above, to shorten the duration and lessen the degree of disequilibrium in the international balance of payments of members.

**Capital of the Fund.** The resources available to the Fund for the accomplishment of these purposes are provided by quotas levied against the individual member countries. These quotas are based upon the countries' financial resources and interest in international trade and their willingness to contribute to the establishment of an international exchange system. Voting power as exercised by the countries' representatives is determined in large part by the members' subscription to the Fund. The table below indicates the membership, quotas, and voting power of the countries which had joined the Fund by October 3, 1946.

The quotas of the members are payable in gold and foreign exchange, the amount of gold to be either 25 per cent of the quota or 10 per cent of the country's net official holdings of gold and United States dollars, whichever is the smaller. Gold depositories for the Fund are London, New York, Shanghai, Paris, and Bombay. As of June 30, 1947, the gold holdings of the Fund were distributed among the centers as follows: Banque de France 2,282,926 fine ounces. Reserve Bank of India 785,327 fine ounces, Bank of England 13,558,337 fine ounces, and the Federal Reserve Bank of New York 21,782,197 fine ounces.

Each member is authorized to substitute nonnegotiable, non-interest bearing notes payable to the Fund on demand for that part of the currency holdings of the Fund which exceeds 10 per cent of the member's quota.

In dealing with the Fund, each member is required to designate a single agency which shall make all applications for the purchase of foreign currencies and carry on any other activities in dealing with the Fund.

**Organization and management.** The Fund is administered by a Board of Governors with powers to admit new members, to approve revisions of quotas, to approve changes in par values, to determine distribution of income, and to require a member to withdraw. The Board is charged with cooperation with other agencies established for the promotion of international stability. The Board meets annually or oftener if required. Day-to-day operations are carried out

by a staff of executive directors of 12 to 14 whose chairman is the Managing Director.

TABLE 49

MEMBERSHIP, QUOTAS, AND VOTING POWER, INTERNATIONAL MONETARY FUND <sup>1</sup>

[as of October 3, 1946]

Country	Quota (millions of U.S. dollars)	Number of Votes
Belgium	225	2500
Bolivia	10	350
Brazil	150	1750
Canada	300	3250
Chile	50	750
China	550	5750
Colombia	50	750
Costa Rica	5	300
Cuba	50	750
Czechoslovakia	125	1500
Denmark	68	930
Dominican Republic	5	300
Ecuador	5	300
Egypt	45	700
El Salvador	2.5	275
Ethiopia	6	310
France	525	5500
Greece	40	650
Guatemala	5	300
Honduras	2.5	275
Iceland	1	260
India	400	4250
Iran	25	500
Iraq	8	330
Luxembourg	10	350
Mexico	90	1150
Netherlands	275	3000
Nicaragua	2	270
Norway	50	750
Panama	.5	255
Paraguay	2	270
Peru	25	500
Philippine Republic	15	400
Poland	125	1500
Union of South Africa	100	1250
United Kingdom	1300	13250
United States	2750	27750
Uruguay	15	400
Yugoslavia	60	850
TOTALS	7472.5	84475

<sup>1</sup> Source: *Report of the Executive Directors, International Monetary Fund*, November 1946, Appendix G, p. 117.

Leading provisions of the Articles of Agreement. Members of the Fund agree to choose a par for their currency, expressed either in terms of gold or the United States dollar of present weight and fineness. The Fund is empowered to set limits above and below the par selected by each country, and the countries agree not to trade in gold at prices other than those expressed by this range. Foreign exchange trading among members is likewise to be confined to limits set by the Fund, the limits for spot exchange being not more than one per cent above or below par.

One of the most widely discussed provisions of the Articles is that which states that a member shall not propose "a change in the par value of its currency except to correct a fundamental disequilibrium." Fortunately, no attempt is made to define the conditions which shall constitute fundamental disequilibrium and the matter of definition is left to the management of the Fund. Criteria somewhat like those suggested at the end of the previous chapter will probably be employed, along with other measures which will develop as experience is gained in the administration of the Agreement, in determining that a condition of fundamental disequilibrium exists.

A member may apply to the Fund for a change in the par value of its currency, and the par of a currency may be changed only on the application of a member. With the exception of applications for a change of original parities, when members request a change in parity which, together with all previous changes, does not exceed ten per cent of the original parity, the Fund is directed to raise no objection. If the requested change together with previous changes does not exceed a further ten per cent of the original parity, the Fund may either concur or object. In any case, a member may change the parity of its currency if the change does not affect the international transactions of members of the Fund. (This provision applies particularly to trade with Russia whose trade is completely controlled by the state.) In all cases involving a reduction in the gold parity of a member's currency, the member whose currency is devalued is required to deliver to the Fund a sufficient amount of gold or its own currency to make up any loss which the Fund undergoes by reason of the devaluation. In case a member should increase the gold value of its currency, the Fund is directed to deliver to the



member an amount in the country's currency equal to the increase in the gold value of its currency held by the Fund.

**Conditions governing use of the Fund's resources.** Members are permitted to buy the currencies of other countries giving their own currency to the Fund in payment, provided the proposed purchase will not increase the Fund's holdings of the purchaser's currency by more than 25 per cent of its quota in one year nor more than 200 per cent at any time. If, however, the Fund holdings of the purchaser's currency have been below 75 per cent of its quota, the 25 per cent limitation applies only to the amount above 75 per cent. Thus if the Fund held only 65 per cent of the quota for French francs at the beginning of a year, France could purchase in that year the currencies of other countries in an amount which would raise the Fund's holdings of francs to 100 per cent of the French quota.

The Articles of Agreement also require countries to repurchase their currencies from the Fund when the Fund's holdings of a given money have increased during the year beyond certain determinable amounts. An exception is granted in cases where the repurchase will adversely affect the monetary reserves of the country whose currency must be repurchased.

The growing scarcity of dollars in the years following World War II makes the provisions of the Agreement governing scarce currencies especially interesting. If the Fund finds a scarcity of a particular currency to be developing, it may take one of several steps: it may ask the member whose currency is deficient to lend additional currency units to the Fund, although there is no obligation on that member to make such a loan; it may require the member to sell its currency to the Fund for gold; the Fund may declare the currency to be scarce and proceed to apportion the Fund's available supplies among the members applying for it. Whenever a currency has been formally declared to be scarce by the Fund, other members are authorized to impose restrictions upon the sale of that currency in their countries in such manner as to bring the supply on hand and accruing from current transactions into balance with the demand for the currency. This authorization lapses whenever the Fund declares the currency to be no longer scarce. Whenever conditions require that a currency be declared to be scarce, the Agreement thus provides for the imposition of ex-

change restrictions of somewhat the same general character as those discussed in the previous chapter.

Convertibility of foreign held balances. The activities of the Fund and the agreements to which the member countries are pledged consist to a large extent of transactions on current account, and do not apply to debts contracted in the period before the establishment of the Fund, unless the debtor country chooses to honor such debts. To have done otherwise would have confronted the Fund and its members with an impossible burden; nevertheless, the administrative problems of segregating current and other balances promise to be difficult.

### APPRAISAL AND COMMENT

The Articles of Agreement which were approved at Bretton Woods in July 1944, represented a compromise of several different plans for a concerted attack upon the widespread restrictionism and monetary nationalism created by depression and war. Certain countries would have preferred measures which provided better protection from the contagion of world depression; others wanted fewer limitations on the deficit members in using the resources of the Fund. Undoubtedly the resulting agreement is far from perfect, but it represents the first united effort by a large number of countries to establish machinery for stabilization of international currencies. Instances where a few countries, such as France, England, and the United States, have entered into agreements for the stabilization of their currencies have existed before. The Fund is the first effort involving so many countries, and while many of them may not seem commercially important, their collective influence can be highly important to the larger commercial nations.

It must be borne in mind that the Fund Agreement does not restrict the sovereignty of a country in using such weapons of international commerce as tariffs, import restrictions, and the use of governmental measures for combating industrial depression. Therefore any country which experiences a deficit in its balance of payments is free to take measures to restrict its imports in achieving a balance. Nevertheless, these are matters of international concern which must be arbitrated through other channels than the Fund.

A start has been made in this direction by the draft of the International Trade Organization charter.

A further fact to be noted regarding the operation of exchange rates is that the great part of all transactions will be made in the open market by dealers and bankers without any recourse whatsoever to the Fund. The resources of the Fund come into use only when a member finds that it cannot with its available monetary reserves maintain the parity it has selected, and that it prefers to maintain the parity rather than depreciating its currency by the amounts allowed in the Articles of Agreement.

The establishment of exchange rates under the Fund Agreement may be contrasted with the system employed under the gold standard and the system of rate determination which occurs when each country takes unilateral action. Under the gold standard, rates remain stable, and any maladjustment among economies must be corrected either by deflation of prices or incomes or both in the country experiencing a prolonged deficit in its balance of payments. If the country took unilateral action under these conditions, it might devalue its currency and hope by this means to secure enough exports to balance its payments with the rest of the world. Under the Fund Agreement, provision is made either for borrowing from the Fund by such a member or for a devaluation of the currency. We therefore have a body established to adjudicate among countries whenever such changes in parities are required.

A second difference between the former systems and the Fund is that resources have been set aside for use in lending to members whose trade requires such loans. In a study of this feature of the Fund Agreement, Miss Alice Bourneuf has concluded that "Many countries will be much better able to meet deficits than they would be without the Fund, but borrowing privileges may not be large enough to affect substantially the policies of member countries."<sup>2</sup> In assessing the value of this provision, it should also be borne in mind that, in its absence, the countries which require foreign funds in order to obtain necessary supplies for their domestic economic recovery would find it difficult to obtain them through other means. Moreover, the lending powers of the Fund, while limited, must be

<sup>2</sup> "Lending Operations of the International Monetary Fund," *The Review of Economic Statistics*, Vol. VIII, No. 4 (November, 1946), p. 244.

considered in the light of the entire Agreement which embodies other measures as well for the development of satisfactory ratios between the money units of the several members.

A further fact in favor of the Fund is that few if any countries of the world showed any willingness to return to the gold standard, and preferred in its stead to retain all or a substantial part of the extensive system of controls developed during the depression and World War II. Their retention would have meant a lower standard of living for the world at best, and at worst another world war developing out of the desire to obtain territories from which the raw materials of modern commerce could be extracted. The argument in favor of possession of colonial empires has no support in logic whenever the same goods can be obtained through the channels of peaceful trade at prices approximating their costs of production.

Still another feature of the Fund which must be recognized is that it is designed to assist in the correction of short-run deficits in the balance of payments. Countries cannot continue to use the resources of the Fund over a very long time without finding these resources closed to them. The Fund only affords an opportunity for a country to take measures to rectify its balance of payments. For problems requiring longer commitments of funds, the International Bank for Reconstruction and Development was devised.

Some of the objections which have been raised against the Fund are as follows: <sup>3</sup>

1. The size of the Fund is too large.
2. The Fund is likely to run out of dollars in four or five years and then break down.
3. The Fund gives the members a right to credit instead of dealing with each case on its own merits.
4. The Fund will be overloaded with weaker currencies.
5. The Fund does not provide a sufficient degree of monetary stability.
6. Exchange controls are not eliminated during the transition period.

<sup>3</sup> *The Stakes at Bretton Woods*, National Planning Association, April 1945, pp. 10-14.

7. The Fund does not eliminate the continued existence of the sterling area.
8. The United States has failed to make a satisfactory bargain in the international monetary negotiations.
9. Commercial agreements should precede monetary agreements.

The validity of these arguments depends, for the most part, upon the kind of world which emerges from the conflict of political ideas existing in the postwar world. If these differences of ideas prove to be reconcilable within the framework of the United Nations charter, then it is possible that multilateral trade will again flourish and that barriers to trade will be steadily reduced under the favorable auspices of a rising level of world production. If, however, the world is broken into opposing camps with impassable barriers between them, the establishment of stable international exchange rates can be undertaken for a more limited area with some benefit. Manifestly, under such circumstances, the future of the Fund will be somewhat less clearly assured.

#### THE FRENCH FRANC READJUSTMENT: AN EXAMPLE OF POSTWAR CURRENCY PROBLEMS

**Background.** Typical of some of the postwar parity problems is the case of the French franc devaluation. Following the liberation of France, a system of controls over the exchange value of the franc was maintained in the effort to control domestic inflation and secure a high value for the franc in purchasing supplies and equipment from other countries. Despite these controls, prices rose more rapidly in France than in other countries, and her exports decreased. Tourist trade also failed to revive as had been expected. Moreover, private French citizens owned gold and balances in other countries which had not been sold to the government although laws required such sale.

French payments to the rest of the world showed a substantial deficit in 1947, of which a large part was with the convertible area, notably the United States and Portugal. The deficit almost exhausted the official French holdings of dollars and gold. The drain against

dollar and escudo resources largely explains the pattern of devaluation chosen by the government.

**The plan of devaluation.** On January 25, 1948, the French Government devalued the franc by 44.444 per cent in relation to all other currencies, thereby raising the official rate for the dollar from 119.107 to 214.392 francs. French exporters remained under obligation to turn over to the government all currencies obtained in foreign trade except United States dollars and Portuguese escudos. Only one-half of the amount of these currencies were required to be turned over to the government at the official rate, the other half being salable in a free market established for these two currencies at the Paris Bourse. This market is free only in a limited sense, for such currencies can be bought only by nationals possessing import licenses, and such licenses are issued for the importation of a limited number of commodities. The establishment of a "free" gold market permits private transactions in gold, but gold exports and imports are prohibited.

Another feature of the franc devaluation was the elimination of all taxes and penalties on individuals holding capital abroad which had not been reported. Such assets were made salable in the free market on the payment of a forfeit of 25 per cent in lieu of other penalties. The forfeit will increase by one per cent each month beginning on July 1, 1948. To the extent that repatriation of capital is encouraged by this measure, the official supply of foreign exchange will be augmented and larger imports will be possible.

**Franc devaluation and the Fund.** The French Government sought the approval of the International Monetary Fund for its plan of devaluation although the degree of devaluation greatly exceeded the amounts permitted under the Fund Agreement. The defense offered was that such a measure was essential in a period of transition from a war economy to a system of greater economic freedom. The objections of the Fund and the British Government were not directed against the devaluation, which all agreed was necessary to the French international position. Rather the proposal to establish a free market for a part of the proceeds of exports was attacked as prejudicial to the interests of other economies.

The nature of this prejudice can be observed in the pattern of cross rates that resulted between the franc, dollar, and pound ster-

ling. The rate between the franc and the pound was set at 864 francs per pound; the official rate between the pound and dollar was \$4.03. Therefore a balance existed between the three currencies at the official franc-dollar rate of 214.392 francs, since 864 divided by 214.392 equals \$4.03. The difficulty arose from the fact that the French exporter could sell one-half of his dollars in a free market which, since the devaluation, has averaged about 303 francs per dollar. Therefore the French exporter to the United States was trading with a franc which had an effective rate of the average of official and free market rates, or about 258.6 francs per dollar. This set a cross rate of \$3.34 per pound sterling and made possible, in the absence of British export restrictions, commodity arbitrage between the United States and England via France.

The French Government considered its currency reforms so vital to its domestic economic program that the readjustment was placed into effect over the protests of the Fund. This disregard for the Fund Agreement might have afforded grounds for the Fund to require the French to withdraw from membership. To have done so would not have solved the problems, so the Fund has chosen instead to continue to work with the French Government in an effort to find a solution to international exchange problems growing out of the franc devaluation.

The French action caused a widespread belief, for a time, that the pound sterling would also have to be devalued, the 90-day forward rate for sterling in New York falling as low as \$3.86. However, the extension of substantial aid to Europe under the Marshall Plan relieved the pressure against the pound, and the forward rate returned to a value only slightly less than the official spot rate.

The franc devaluation is a typical case of the kind of problems we may expect the Fund to face until a better relationship between currencies can be obtained. This case indicates the conflict of national and international interests which the Fund was created to resolve and it also demonstrates the limited powers which exist for resolving them. Further negotiation between the Fund and the French Government may provide a solution satisfactory to all countries whose interests are at stake.

## THE INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

The Articles of Agreement also provided for a bank whose function would be to facilitate the lending of long-term capital to countries whose capital equipment had been severely damaged by the war or whose productive potential could be substantially raised by such loans. This institution, the Bank for Reconstruction and Development, supplements the work of the Fund in that the latter is not permitted nor is it equipped to make loans of a long time character. Capital occupies a strategic place in international economic relations because it permits a country to buy from other countries more than it sells to them for a period of time, using the goods it buys to increase its power to produce goods which can then be used to liquidate the loan. The decline in the willingness of private American investors to continue to purchase European securities in 1929 and 1930 has been blamed by many persons for the severity of the depression. The process of rebuilding international economic institutions therefore was confronted not only with the task of providing a monetary organization which would facilitate trade, but the problem of creating an institution for promoting the lending of long-term capital.

Without examining in detail the provisions for the establishment of the Bank, we may note that it does not enter into any capital transaction involving two or more countries unless its participation is required to assure successful sale for the security issue. It may, however, guarantee or lend on its own account wherever it considers the purpose to warrant and the conditions to be worthy of a loan, but is limited in its transactions to dealing with members' treasuries, central banks, etc.

The Bank is directed to limit its participation in international capital transactions to one hundred per cent of its subscribed, unimpaired capital. Since the capital is approximately \$8 billion, excluding the Russian quota which has not been subscribed, the Bank will have a considerable latitude for action when all members have fully subscribed for their quota. However, the initial call was only 20 per cent of quota with 2 per cent payable in gold or American dollars and the remainder in the subscribing country's currency.



The Bank had some difficulty at its inception due to difficulties in obtaining personnel acceptable to the American investment interests where any initial issues of securities were almost certain to have to be sold. After bridging these difficulties, the Bank was successful in floating an issue of securities at favorable rates and the subsequent market behavior of the issue seems to promise success for future issues. Some questions still remain about the eligibility of such securities for purchase by savings banks, life insurance companies, and other institutions whose portfolios are limited by state regulatory agencies to certain classes of securities.

The Bank is an indispensable institution in the postwar years when private investors, faced with the uncertainties of foreign political organizations, would be reluctant to commit their funds for foreign investment purposes. The Bank is also an indispensable aid to the establishment of stable international monetary conditions, especially during the immediate postwar years when the productivity of many countries has fallen to such low levels that they cannot support their previous standard of living, and even less enter the struggle for world markets on terms that promise success.

## CONCLUSIONS

The institutions that have been established following World War II for the resolution of problems arising in the fields of foreign exchange and finance represent the latest in a series of attempts to set up organizations which will substitute for the unilateral actions of individual countries in seeking to solve their individual problems. It is surprising in retrospect that these organizations were possible in the presence of world-wide skepticism concerning them. On the part of the United States, which was asked to subscribe the largest share to both institutions, there was a strong feeling that again we were being asked to provide funds for a number of countries who would not take the domestic measures necessary to raise their productivity and national income.

On the part of European countries, there was a feeling that the United States had generally acted the part of the bull in the international china shop by taking alternating positions on tariffs, international monetary problems, etc., as well as by creating a highly

unstable industrial system with violent alternations of prosperity and depression which adversely affected the economies of those who engaged in trade with us. The advantages of multilateral trading systems are particularly apparent only when the diversion of capital and labor to the export trades and the dependence of certain industries upon overseas sources of raw and finished materials is sustained for a period long enough to permit their diversion to pay the costs of transferring capital and labor.

Probably no single problem has been more difficult for foreign countries than the American business cycle, although business cycles have characterized European economies for more than a hundred years. In the United States the fluctuations have been more severe than those of other countries. While these countries have been reluctant to forego the advantages to be derived from trade with us when trade was brisk, they at the same time disliked to lay themselves open to the fall of income which usually accompanied our depressions. Clearest evidence that this condition existed lies in the fact that, during the brief depression in 1938, world sales of merchandise to the United States fell by over 35 per cent while their purchases from us declined by only 7 per cent.<sup>4</sup> In the words of one writer, we exported our unemployment to other countries.

Under these conditions of hesitation and suspicion the world has undertaken to establish institutions which would function in the realm of international trade and currency organization in much the same manner that central banks function in the individual countries. It should occasion no surprise if the early efforts of these organizations do not fulfill all the claims of their staunchest adherents, for the money of today, whether domestic or international, is a managed money. Even on the domestic level where experience has been available over a comparatively long period of time, we have not yet achieved the insight and the instruments to control in a satisfactory manner. It will probably require a considerable period for experience to be gained in administration of international currency problems in a disinterested and astute manner, particularly when the economic components of the system show such a diversity of prob-

<sup>4</sup> Triffin, Robert, "National Central Banking and the International Economy" in *International Monetary Policies*, Board of Governors of the Federal Reserve System, p. 57n (1947).

lems and conditions and when each of them jealously guards the prerogatives which it considers indispensable to its sovereignty. Nor is the problem exclusively an international one.

The greater the success which individual countries achieve in stabilizing their own economic and monetary conditions the greater will be the chances for success in stabilizing international exchange rates. Once a country has exhausted its rights to draw on the Fund, the problem still will remain of correcting the conditions which gave rise to the deficit in the balance of payments, and if they arose out of an attempt to sustain a higher per capita standard of living than the resources of the country could afford, then there will have to be a painful reappraisal of goals and a revaluation of means.

### STUDY QUESTIONS

1. Why was it necessary in the International Monetary Fund to require that only official agencies of the several governments deal with the Fund?
2. In what respects is the Fund superior to the gold standard in aiding countries which have a deficit in their balance of payments?
3. What general economic conditions do you consider would represent a state of "fundamental disequilibrium" justifying a change in a country's exchange rate?
4. "The International Monetary Fund cannot materially improve trade conditions among countries unless progress can be made in reducing nonmonetary barriers to trade." Do you agree? Why? Why not?
5. In what ways does the Bank for Reconstruction and Development supplement the work of the Fund?

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